

June 28, 2006

Mr. Chuck Zimmerman
Brown and Caldwell
3264 Goni Rd., Suite 153
Carson City, NV 89706

Dear Mr. Zimmerman:

Enclosed is the quality assurance review of the analytical data for the analyses of the 15 filter samples that were collected on February 4, 2006, in association with the ARCO Yerington Mine Site (Event 63). The samples were collectively analyzed for gross alpha, gross beta, radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238.

Based on this quality assurance review, one thorium-230 result was qualified as "not-detected" due to method blank contamination. In addition, the isotopic thorium results of one sample were qualified as biased high estimates due to high chemical yield, and a few gross alpha, radium-226, and radium-228 results were qualified as estimated due to positive results reported between the method detection limit and the reporting limit.

It should be noted that the background checks for the gross alpha and gross beta analyses were not included in the data package submitted for review. The data reviewer requested these background checks from the laboratory; however, the laboratory failed to provide them (as of the date of this report).

If you have any questions or comments, please do not hesitate to call.

Sincerely,



Konstadina Vlahogiani, M.S.
Senior Quality Assurance Chemist III/
Project Manager

Concurred by:



Rock J. Vitale, CEAC, CPC
Technical Director of Chemistry/
Principal

KV/RJV:hm/jm
Enc.

cc: Mr. Guy Graening – Brown and Caldwell

**QUALITY ASSURANCE REVIEW
OF THE SAMPLES COLLECTED AT THE
ARCO YERINGTON MINE SITE
ON FEBRUARY 4, 2006 (EVENT 63)**

June 28, 2006

Prepared for:

ATLANTIC RICHFIELD COMPANY
28100 Torch Parkway
Warrenville, IL 60555

Prepared by:

ENVIRONMENTAL STANDARDS, INC.
1140 Valley Forge Road
P.O. Box 810
Valley Forge, PA 19482-0810

Issued to:

BROWN AND CALDWELL
3264 Goni Road, Suite 153
Carson City, NV 89706

TABLE OF CONTENTS

1.0	Introduction
2.0	Findings
A.	Gross Alpha Analysis
B.	Gross Beta Analysis
C.	Radium-226 Analysis
D.	Radium-228 Analysis
E.	Thorium-228, Thorium-230, and Thorium-232 Analysis
F.	Uranium-234, Uranium-235, and Uranium-238 Analysis
3.0	Qualifier Summary Tables
A.	Gross Alpha Analysis
B.	Gross Beta Analysis
C.	Radium-226 Analysis
D.	Radium-228 Analysis
E.	Thorium-228, Thorium-230, and Thorium-232 Analysis
F.	Uranium-234, Uranium-235, and Uranium-238 Analysis
4.0	Overall Assessment
5.0	Radiological Data Qualifiers and Valid Reason Codes
6.0	Signatures
7.0	Analytical Results
8.0	Supporting Documentation

1.0 Introduction

This quality assurance (QA) review is based upon a rigorous examination of all data generated from the analyses of the 15 filter samples that were collected by Brown and Caldwell on February 4, 2006, in association with the ARCO Yerington Mine Site (Event 63). The samples included in this QA review are specified on Table 1.

This review has been performed with guidance from the “National Functional Guidelines for Inorganic Data Review” (US EPA, 2/94). The aforementioned document is not entirely applicable to the type of analyses and analytical protocols performed on the samples evaluated in this QA review, but it has been used with professional judgment to aid the data reviewer in the interpretation of the QC analysis results and in the overall evaluation of the sample data deliverables. It should also be noted that results affected by blank contamination will be designated with a “UJ” qualifier (not the “U” qualifier typically used when following the National Functional Guidelines) in order to be consistent with historical project validation protocols and the current project database.

The reported analytical results are presented as a summary of the data in Section 2. Data were examined to determine the usability of the analytical results and the compliance relative to the requirements specified in the published analytical methods, the Severn Trent Laboratories, Inc. (STL) analytical Standard Operating Procedures (SOPs), the Quality Assurance Project Plan (QAPjP) for the Atlantic Richfield Company Yerington Mine Site (September 2003), and the Technical Requirements For Environmental Laboratory Analytical Services, BP Global Contract Lab Network (GCLN) (5/22/02, Revision 08). Qualifier codes have been placed next to results to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result. This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data’s end-user to best understand the usability of the analytical results. Data not qualified in this report should be considered valid based on the QC criteria that have been reviewed. Details of this QA review are presented in Section 1 of this report. This report was prepared to provide a critical review of the laboratory analyses and reported analytical results. Rigorous QA reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

TABLE 1

SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW

Field Sample Identification	Laboratory Sample Identification	SDG Number	Matrix	Date Sample Collected	Parameters Examined
P-0510	J6B270158-1	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0511	J6B270158-2	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0512	J6B270158-3	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0513	J6B270158-4	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0514	J6B270158-5	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0515	J6B270158-6	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0516 (Field Duplicate of P-0510)	J6B270158-7	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
P-0517 (Field Blank)	J6B270158-8	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000357	J6B270158-9	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000358	J6B270158-10	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000359	J6B270158-11	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000360	J6B270158-12	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000361	J6B270158-13	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000362	J6B270158-14	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U
000363 (Trip Blank)	J6B270158-15	31025	Filter	2/4/06	α , β , ^{226}Ra , ^{228}Ra , Th, U

TABLE 1 (Cont.)

NOTES:

- | | |
|-------------------|---|
| α | - Gross Alpha by STL SOP RICH-RC-5014/5016 (based on US EPA Method 900.0). |
| β | - Gross Beta by STL SOP RICH-RC-5014/5016 (based on US EPA Method 900.0). |
| ^{226}Ra | - Radium-226 by STL SOP RICH-RC-5005 (based on US EPA Method 903.1). |
| ^{228}Ra | - Radium-228 by STL SOP RICH-RC-5005 (based on US EPA Method 904.0). |
| Th | - Thorium-228, Thorium-230, and Thorium-232 by STL SOP RICH-RC-5087. |
| U | - Uranium-234, Uranium-235, and Uranium-238 by STL SOP RICH-RC-5067 (based on US EPA Method 908.0). |



2.0 Findings

Complete support documentation for this radiological analysis QA review is presented in Section 8.0 of this report. The cover sheet for this section is a checklist of all QA procedures required by the protocols and examined in this data review.

A. Gross Alpha Analysis

Fifteen samples were analyzed for gross alpha by STL SOP RICH-RC-5014/5016 (based on US EPA Method 900.0). The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results	√			
LCS Recoveries	√			
Field Duplicate Precision	√			
Efficiency Checks	√			
Background Checks	NP			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results			√	
Evaluation of Raw Data	√			

NP: Not Provided by the laboratory.

Quantitation of Results: All positive results reported at concentrations greater than the method detection limit (MDL) but less than the reporting limit (RL) were qualified as estimated and flagged “J” on the data tables.

B. Gross Beta Analysis

Fifteen samples were analyzed for gross beta by STL SOP RICH-RC-5014/5016 (based on US EPA Method 900.0). The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results	√			
LCS Recoveries	√			
Field Duplicate Precision	√			

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Efficiency Checks	√			
Background Checks	NP			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results	√			
Evaluation of Raw Data	√			

NP: Not Provided by the laboratory.

No findings were observed for the gross beta fraction.

C. Radium-226 Analysis

Fifteen samples were analyzed for radium-226 by STL SOP RICH-RC-5005 (based on US EPA Method 903.1). The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results	√			
LCS Recoveries	√			
Chemical Yield	√			
Field Duplicate Precision	√			
Instrument Performance Checks	√			
Background Checks	√			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results			√	
Evaluation of Raw Data	√			

Quantitation of Results: All positive results reported at concentrations greater than the MDL but less than the RL were qualified as estimated and flagged “J” on the data tables.

D. Radium-228 Analysis

Fifteen samples were analyzed for radium-228 by STL SOP RICH-RC-5005 (based on US EPA Method 904.0). The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results	√			
LCS Recoveries	√			
Chemical Yield	√			
Field Duplicate Precision	√			
Efficiency Checks	√			
Background Checks	√			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results			√	
Evaluation of Raw Data	√			

Quantitation of Results: All positive results reported at concentrations greater than the MDL but less than the RL were qualified as estimated and flagged “J” on the data tables.

E. Thorium-228, Thorium-230, and Thorium-232 Analysis

Fifteen samples were analyzed for thorium-228, thorium-230, and thorium-232 by STL SOP RICH-RC-5087. The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results			√	
LCS Recoveries	√			
Chemical Yield			√	
Field Duplicate Precision	√			
Energy Calibration Check	√			
Efficiency Calibration Check	√			
Background Check	√			
Full Width at the Half Maximum	√			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results	√			

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Evaluation of Raw Data	√			

Blank Analysis Results: Thorium-230 was observed to be present in the method blank associated with sample P-0514. The positive result for thorium-230 in sample P-0514 should be considered “not-detected” and has been flagged “UJ” on the data tables.

Chemical Yield: The chemical yield (143%) of the isotopic thorium analysis of sample P-0513 exceeded the upper acceptance limit (115%). This sample was reanalyzed for isotopic thorium; however, the chemical yield (124%) still exceeded the upper acceptance limit. The positive results for thorium-228, thorium-230, and thorium-232 in sample P-0513 should be considered biased high estimates and have been flagged “J” on the data tables.

F. Uranium-234, Uranium-235, and Uranium-238 Analysis

Fifteen samples were analyzed for uranium-234, uranium-235, and uranium-238 by STL SOP RICH-RC-5067 (based on US EPA Method 908.0). The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable With Discussion	Acceptable With Qualification	Not Acceptable
Holding Times	√			
Blank Results	√			
LCS Recoveries	√			
Chemical Yield	√			
Field Duplicate Precision	√			
Energy Calibration Check	√			
Efficiency Calibration Check	√			
Background Check	√			
Full Width at the Half Maximum	√			
Traceability Documents	√			
Sample Preparation	√			
Quantitation of Results	√			
Evaluation of Raw Data	√			

No findings were observed for the isotopic uranium fraction.

3.0 Qualifier Summary Tables

A. Gross Alpha Analysis

Analyte	SDG Number	Samples	Validation Qualifier	Reason for Qualification
gross alpha	31025	P-0513, P-0514, P-0515, 000357, 000359, 000360, 000361, and 000362	J	positive result reported between the MDL and RL

B. Gross Beta Analysis

Analyte	SDG Number	Sample	Validation Qualifier	Reason(s) for Qualification
Qualification of Data Was Not Warranted				

C. Radium-226 Analysis

Analyte	SDG Number	Sample	Validation Qualifier	Reason for Qualification
radium-226	31025	000360	J	positive result reported between the MDL and RL

D. Radium-228 Analysis

Analytes	SDG Number	Samples	Validation Qualifier	Reason for Qualification
radium-228	31025	P-0516, 000358, 000359, and 000360	J	positive result reported between the MDL and RL

E. Thorium-228, Thorium-230, and Thorium-232 Analysis

Analyte	SDG Number	Samples	Validation Qualifier	Reasons for Qualification
thorium-230	31025	P-0514	UJ	blank contamination
thorium-228, thorium-230, and thorium-232	31025	P-0513	J	high chemical yield

F. Uranium-234, Uranium-235, and Uranium-236 Analysis

Analyte	SDG Number	Sample	Validation Qualifier	Reason(s) for Qualification
Qualification of Data Was Not Warranted				

4.0 Overall Assessment

Based on this quality assurance review, one thorium-230 result was qualified as “not-detected” due to method blank contamination. In addition, the isotopic thorium results of one sample were qualified as biased high estimates due to high chemical yield, and a few gross alpha, radium-226, and radium-228 results were qualified as estimated due to positive results reported between the MDL and the RL.

5.0 Radiological Data Qualifiers and Valid Reason Codes

Radiological Data Qualifiers

- U Analyte not detected at the detection limit concentration.
- J Reported value is an estimated concentration.
- UJ Analyte not detected at an estimated detection limit concentration.
- R These data were rejected and were not used for any purposes.
- UR The analyte was not detected. The detection limit is unreliable and may be representative of a false negative. These data were rejected and are not usable for any purpose.

Valid Reason Codes

- 1 Holding time violation
- 2 Method blank contamination
- 3 Surrogate recovery
- 4 Matrix spike/matrix spike duplicate recovery
- 5 Matrix spike/matrix spike duplicate precision outside limits
- 6 Laboratory control sample recovery
- 7 Field blank contamination
- 8 Field duplicate precision outside limits
- 9 Other deficiencies (including cooler temperature)
- A Absence of supporting QC
- S ICV, CCV or column performance check problem
- Y Initial and continuing calibration blank problem
- M Interference check samples problem
- O Post-digestion spike outside of 85-115%
- F MSA correlation coefficient <0.995, or MSA not done
- G Serial dilution problem

K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside of limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

6.0 Signatures

Report prepared by:



Konstadina Vlahogiani, M.S.
Senior Quality Assurance Chemist III/
Project Manager

Report reviewed and approved by



Donald J. Lancaster, M.S.
Senior Quality Assurance Chemist II

Report reviewed and approved by:



Rock J. Vitale, CEAC, CPC
Technical Director of Chemistry/
Principal

ENVIRONMENTAL STANDARDS, INC.
1140 Valley Forge Road
P.O. Box 810
Valley Forge, PA 19482-0810

(610) 935-5577

Date: 6/28/06

7.0 ANALYTICAL RESULTS

**Arco - Yerington
SDG: 32013**

Lab Sample	9HX81110	9HX81210	9HX81310
Field Sample	P-0517	000357	000358
Collect Date	2/4/2006	2/4/2006	2/4/2006
Type	FB	N	N
Parent	AM-1-PM10		

Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI	0.00995	U	5.27	20	2.1	10.3	J / T	5.18	20	4.9	4.17	U	4.86	20	3.2
	BETA	BETA, GROSS	PCI	1.51	U	5.3	6	2.6	17.6		5.21	6	4.2	16.3		5.34	6	4.1
E903.1	RA-226	RADIUM-226	PCI	0.223	U	0.277	1	0.2	-0.24	U	0.604	1	0.28	0.269	U	0.308	1	0.22
E904.0	RA-228	RADIUM-228	PCI	1.6	U	1.77	3.1	0.92	4.5		2.83	3.1	1.7	1.82	J / T	1.64	3.1	0.93
E908	U-234	URANIUM-234	PCI	-0.0427	U	0.603	1	0.061	0.376	U	0.474	1	0.41	-0.0183	U	0.438	1	0.037
	U-235	URANIUM-235	PCI	-0.0213	U	0.511	1	0.043	0	U	0.268	1	0.24	-0.0366	U	0.517	1	0.052
	U-238	URANIUM-238	PCI	-0.0427	U	0.603	1	0.061	0.0791	U	0.474	1	0.2	-0.0183	U	0.438	1	0.037
ISOTH	TH-228	THORIUM-228	PCI	-0.0208	U	0.25	1	0.042	0.14	U	0.14	1	0.16	0.0928	U	0.342	1	0.17
	TH-230	THORIUM-230	PCI	0.116	U	0.116	1	0.14	0.0433	U	0.117	1	0.087	0.108	U	0.259	1	0.16
	TH-232	THORIUM-232	PCI	0.0194	U	0.233	1	0.087	0.0433	U	0.117	1	0.087	0	U	0.117	1	0.11

**Arco - Yerington
SDG: 32013**

Lab Sample	9HX81410	9HX81510	9HX81610
Field Sample	000359	000360	000361
Collect Date	2/4/2006	2/4/2006	2/4/2006
Type	N	N	N
Parent			

Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI	6.84	J / T	5.45	20	4.1	16.9	J / T	5.1	20	6.3	9.36	J / T	4.97	20	4.6
	BETA	BETA, GROSS	PCI	18.9		4.71	5	5	25.1		5.06	6	5	24.7		5.18	6	5.1
E903.1	RA-226	RADIUM-226	PCI	0.308	U	0.456	1	0.29	0.563	J / T	0.512	1	0.37	2.09		0.402	1	0.66
E904.0	RA-228	RADIUM-228	PCI	2.26	J / T	1.74	3.1	1	1.85	J / T	1.73	3.1	0.95	21.7		1.49	3.1	3.3
E908	U-234	URANIUM-234	PCI	0.194	U	0.262	1	0.28	1.23		0.481	1	0.74	0.828	J / T	0.616	1	0.64
	U-235	URANIUM-235	PCI	-0.0194	U	0.464	1	0.039	0.0655	U	0.515	1	0.2	0	U	0.295	1	0.27
	U-238	URANIUM-238	PCI	0.0968	U	0.262	1	0.19	0.852	J / T	0.441	1	0.61	0.745	J / T	0.498	1	0.6
ISOTH	TH-228	THORIUM-228	PCI	0.059	U	0.549	1	0.24	0.692	J / T	0.125	1	0.37	0.561	J / T	0.354	1	0.39
	TH-230	THORIUM-230	PCI	0.467	J / T	0.33	1	0.34	3.17		0.206	1	0.87	2.2		0.149	1	0.77
	TH-232	THORIUM-232	PCI	0	U	0.149	1	0.13	0.601	J / T	0.116	1	0.33	0.825	J / T	0.149	1	0.44

**Arco - Yerington
SDG: 32013**

Lab Sample	9HX81710	9HX81810	9HX81N10
Field Sample	000362	000363	P-0510
Collect Date	2/4/2006	2/4/2006	2/4/2006
Type	N	TB	N
Parent	AM-2-TSP		

Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI	10.9	J / T	5.12	20	5	-0.862	U	4.86	20	1.6	2.11	U	5.96	20	3.1
	BETA	BETA, GROSS	PCI	24.1		5.29	6	5	-1.29	U	5.36	6	2.4	13.2		5.41	6	3.8
E903.1	RA-226	RADIUM-226	PCI	0.114	U	0.387	1	0.22	0.112	U	0.313	1	0.18	0.264	U	0.522	1	0.31
E904.0	RA-228	RADIUM-228	PCI	-0.0378	U	2.25	3.1	0.88	0.618	U	1.66	3.1	0.75	0.752	U	2.51	3.1	1.1
E908	U-234	URANIUM-234	PCI	2		0.605	1	1.1	-0.0089	U	0.448	1	0.018	0.0791	U	0.474	1	0.2
	U-235	URANIUM-235	PCI	-0.00906	U	0.456	1	0.018	0	U	0.302	1	0.27	-0.0198	U	0.474	1	0.04
	U-238	URANIUM-238	PCI	0.0769	U	0.605	1	0.23	-0.0089	U	0.448	1	0.018	0	U	0.268	1	0.24
ISOTH	TH-228	THORIUM-228	PCI	0.192	U	0.47	1	0.27	0.0511	U	0.139	1	0.1	0.0452	U	0.42	1	0.18
	TH-230	THORIUM-230	PCI	0.119	U	0.161	1	0.17	0	U	0.129	1	0.12	0.147	U	0.252	1	0.17
	TH-232	THORIUM-232	PCI	0.0595	U	0.161	1	0.12	0	U	0.129	1	0.12	0	U	0.114	1	0.1

**Arco - Yerington
SDG: 32013**

Lab Sample	9HX81Q10	9HX81R10	9HX81T10
Field Sample	P-0511	P-0512	P-0513
Collect Date	2/4/2006	2/4/2006	2/4/2006
Type	N	N	N
Parent			

Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI	2.92	U	5.97	20	3.3	4.86	U	5.25	20	3.6	9.63	J / T	5.86	20	4.9
	BETA	BETA, GROSS	PCI	11.5		5.03	6	3.6	13.3		5.53	6	3.8	19.1		5.41	6	4.5
E903.1	RA-226	RADIUM-226	PCI	-0.227	U	0.617	1	0.28	0.108	U	0.284	1	0.16	0.263	U	0.801	1	0.46
E904.0	RA-228	RADIUM-228	PCI	1.64	U	2.81	3.1	1.3	-0.436	U	2.35	3.1	0.96	0.0491	U	2.32	3.1	0.96
E908	U-234	URANIUM-234	PCI	0.38	U	0.597	1	0.43	-0.049	U	1	1	0.28	0.377	U	0.81	1	0.49
	U-235	URANIUM-235	PCI	0	U	0.286	1	0.26	0.0489	U	0.772	1	0.26	-0.0472	U	0.666	1	0.068
	U-238	URANIUM-238	PCI	0.169	U	0.597	1	0.31	-0.0979	U	0.841	1	0.1	0.472	U	0.868	1	0.55
ISOTH	TH-228	THORIUM-228	PCI	-0.0219	U	0.263	1	0.044	0	U	0.182	1	0.16	0.37	J / 9H	0.341	1	0.31
	TH-230	THORIUM-230	PCI	-0.0408	U	0.3	1	0.058	0.249	U	0.249	1	0.25	1.38	J / 9H	0.143	1	0.58
	TH-232	THORIUM-232	PCI	0.0204	U	0.244	1	0.091	0.0623	U	0.169	1	0.13	0.37	J / 9H	0.143	1	0.29

**Arco - Yerington
SDG: 32013**

			Lab Sample	9HX81T20					9HX81V10					9HX81V30				
			Field Sample	P-0513					P-0514					P-0514				
			Collect Date	2/4/2006					2/4/2006					2/4/2006				
			Type	N					N					N				
			Parent															
Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI						9.09	J / T	4.93	20	4.5					
	BETA	BETA, GROSS	PCI						16.4		5.47	6	4.1					
E903.1	RA-226	RADIUM-226	PCI						0.141	U	0.489	1	0.27					
E904.0	RA-228	RADIUM-228	PCI						1.27	U	1.95	3.1	0.94					
E908	U-234	URANIUM-234	PCI						0.023	U	0.791	1	0.25					
	U-235	URANIUM-235	PCI						0.115	U	0.312	1	0.23					
	U-238	URANIUM-238	PCI						0.115	U	1.07	2	0.43					
ISOTH	TH-228	THORIUM-228	PCI	0.642	J / 9H	0.158	1	0.4						0.248	U	0.576	1	0.33
	TH-230	THORIUM-230	PCI	1.93	J / 9H	0.145	1	0.73						0.829	UJ / 2	0.829	1	0.46
	TH-232	THORIUM-232	PCI	0.482	J / 9H	0.145	1	0.33						0.171	U	0.171	1	0.2

**Arco - Yerington
SDG: 32013**

Lab Sample	9HX81W10	9HX81X10
Field Sample	P-0515	P-0516
Collect Date	2/4/2006	2/4/2006
Type	N	FD
Parent		P-0510

Method	CAS Number	Chemical Name	Units	Result	Qual / Reason	MDL	RDL	Uncert	Result	Qual / Reason	MDL	RDL	Uncert
E900.0	ALPHA	ALPHA, GROSS	PCI	6.53	J / T	5.94	20	4.2	2.92	U	5.96	20	3.3
	BETA	BETA, GROSS	PCI	13.8		5.06	6	4	13.3		5.92	6	4
E903.1	RA-226	RADIUM-226	PCI	2.36		0.71	1	0.78	-0.118	U	0.574	1	0.27
E904.0	RA-228	RADIUM-228	PCI	18.9		2.54	3.1	3.1	1.84	J / T	1.65	3.1	0.92
E908	U-234	URANIUM-234	PCI	0	U	0.323	1	0.29	0	U	0.268	1	0.24
	U-235	URANIUM-235	PCI	0	U	0.323	1	0.29	0	U	0.268	1	0.24
	U-238	URANIUM-238	PCI	0.0953	U	0.571	1	0.24	-0.0198	U	0.474	1	0.04
ISOTH	TH-228	THORIUM-228	PCI	-0.0222	U	0.266	1	0.044	0	U	0.147	1	0.13
	TH-230	THORIUM-230	PCI	0.144	U	0.247	1	0.17	0.101	U	0.137	1	0.14
	TH-232	THORIUM-232	PCI	-0.0206	U	0.247	1	0.041	0	U	0.137	1	0.12

8.0 SUPPORTING DOCUMENTATION

Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #63

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STL R

Data Package Contains 114 Pages

Report No.: 32013

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31025	EVENT 63	000357	J6B270158-9	HX8121AG	9HX81210	6060317
		000357	J6B270158-9	HX8121AA	9HX81210	6060336
		000357	J6B270158-9	HX8121AE	9HX81210	6060337
		000357	J6B270158-9	HX8121AF	9HX81210	6060339
		000357	J6B270158-9	HX8121AC	9HX81210	6060342
		000357	J6B270158-9	HX8121AD	9HX81210	6060344
		000358	J6B270158-10	HX8131AG	9HX81310	6060317
		000358	J6B270158-10	HX8131AA	9HX81310	6060336
		000358	J6B270158-10	HX8131AE	9HX81310	6060337
		000358	J6B270158-10	HX8131AF	9HX81310	6060339
		000358	J6B270158-10	HX8131AC	9HX81310	6060342
		000358	J6B270158-10	HX8131AD	9HX81310	6060344
	EVENT 63	000359	J6B270158-11	HX8141AG	9HX81410	6060317
		000359	J6B270158-11	HX8141AA	9HX81410	6060336
		000359	J6B270158-11	HX8141AE	9HX81410	6060337
		000359	J6B270158-11	HX8141AF	9HX81410	6060339
		000359	J6B270158-11	HX8141AC	9HX81410	6060342
		000359	J6B270158-11	HX8141AD	9HX81410	6060344
		000360	J6B270158-12	HX8151AG	9HX81510	6060317
		000360	J6B270158-12	HX8151AA	9HX81510	6060336
		000360	J6B270158-12	HX8151AE	9HX81510	6060337
		000360	J6B270158-12	HX8151AF	9HX81510	6060339
		000360	J6B270158-12	HX8151AC	9HX81510	6060342
		000360	J6B270158-12	HX8151AD	9HX81510	6060344
		000361	J6B270158-13	HX8161AG	9HX81610	6060317
		000361	J6B270158-13	HX8161AA	9HX81610	6060336

Report No.: 32013

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31025	EVENT 63	000361	J6B270158-13	HX8161AE	9HX81610	6060337
		000361	J6B270158-13	HX8161AF	9HX81610	6060339
		000361	J6B270158-13	HX8161AC	9HX81610	6060342
		000361	J6B270158-13	HX8161AD	9HX81610	6060344
		000362	J6B270158-14	HX8171AG	9HX81710	6060317
		000362	J6B270158-14	HX8171AA	9HX81710	6060336
		000362	J6B270158-14	HX8171AE	9HX81710	6060337
		000362	J6B270158-14	HX8171AF	9HX81710	6060339
		000362	J6B270158-14	HX8171AC	9HX81710	6060342
		000362	J6B270158-14	HX8171AD	9HX81710	6060344
		000363	J6B270158-15	HX8181AG	9HX81810	6060317
		000363	J6B270158-15	HX8181AA	9HX81810	6060336
		000363	J6B270158-15	HX8181AE	9HX81810	6060337
		000363	J6B270158-15	HX8181AF	9HX81810	6060339
		000363	J6B270158-15	HX8181AC	9HX81810	6060342
		000363	J6B270158-15	HX8181AD	9HX81810	6060344
		P 0510	J6B270158-1	HX81N1AG	9HX81N10	6060317
		P 0510	J6B270158-1	HX81N1AA	9HX81N10	6060336
		P 0510	J6B270158-1	HX81N1AE	9HX81N10	6060337
		P 0510	J6B270158-1	HX81N1AF	9HX81N10	6060339
		P 0510	J6B270158-1	HX81N1AC	9HX81N10	6060342
		P 0510	J6B270158-1	HX81N1AD	9HX81N10	6060344
		P 0511	J6B270158-2	HX81Q1AG	9HX81Q10	6060317
		P 0511	J6B270158-2	HX81Q1AA	9HX81Q10	6060336
		P 0511	J6B270158-2	HX81Q1AE	9HX81Q10	6060337
		P 0511	J6B270158-2	HX81Q1AF	9HX81Q10	6060339
		P 0511	J6B270158-2	HX81Q1AC	9HX81Q10	6060342
		P 0511	J6B270158-2	HX81Q1AD	9HX81Q10	6060344
		P 0512	J6B270158-3	HX81R1AG	9HX81R10	6060317
		P 0512	J6B270158-3	HX81R1AA	9HX81R10	6060336
		P 0512	J6B270158-3	HX81R1AE	9HX81R10	6060337
		P 0512	J6B270158-3	HX81R1AF	9HX81R10	6060339
		P 0512	J6B270158-3	HX81R1AC	9HX81R10	6060342
		P 0512	J6B270158-3	HX81R1AD	9HX81R10	6060344
		P 0513	J6B270158-4	HX81T1AG	9HX81T10	6060317
		P 0513	J6B270158-4	HX81T1AA	9HX81T10	6060336
		P 0513	J6B270158-4	HX81T1AE	9HX81T10	6060337
		P 0513	J6B270158-4	HX81T1AF	9HX81T10	6060339
		P 0513	J6B270158-4	HX81T1AC	9HX81T10	6060342

Report No.: 32013

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
31025	EVENT 63	P 0513	J6B270158-4	HX81T1AD	9HX81T10	6060344
		P 0513	J6B270158-4	HX81T2AA	9HX81T20	6115380
		P 0514	J6B270158-5	HX81V1AG	9HX81V10	6060317
		P 0514	J6B270158-5	HX81V1AE	9HX81V10	6060337
		P 0514	J6B270158-5	HX81V1AF	9HX81V10	6060339
		P 0514	J6B270158-5	HX81V1AC	9HX81V10	6060342
		P 0514	J6B270158-5	HX81V1AD	9HX81V10	6060344
		P 0514	J6B270158-5	HX81V3AA	9HX81V30	6110472
		P 0515	J6B270158-6	HX81W1AG	9HX81W10	6060317
		P 0515	J6B270158-6	HX81W1AA	9HX81W10	6060336
		P 0515	J6B270158-6	HX81W1AE	9HX81W10	6060337
		P 0515	J6B270158-6	HX81W1AF	9HX81W10	6060339
		P 0515	J6B270158-6	HX81W1AC	9HX81W10	6060342
		P 0515	J6B270158-6	HX81W1AD	9HX81W10	6060344
		P 0516	J6B270158-7	HX81X1AG	9HX81X10	6060317
		P 0516	J6B270158-7	HX81X1AA	9HX81X10	6060336
		P 0516	J6B270158-7	HX81X1AE	9HX81X10	6060337
		P 0516	J6B270158-7	HX81X1AF	9HX81X10	6060339
		P 0516	J6B270158-7	HX81X1AC	9HX81X10	6060342
		P 0516	J6B270158-7	HX81X1AD	9HX81X10	6060344
		P 0517	J6B270158-8	HX8111AG	9HX81110	6060317
		P 0517	J6B270158-8	HX8111AA	9HX81110	6060336
		P 0517	J6B270158-8	HX8111AE	9HX81110	6060337
		P 0517	J6B270158-8	HX8111AF	9HX81110	6060339
		P 0517	J6B270158-8	HX8111AC	9HX81110	6060342
		P 0517	J6B270158-8	HX8111AD	9HX81110	6060344

Certificate of Analysis

April 28, 2006

Brown & Caldwell
2701 Prospect Park Drive
Rancho Cordova, CA 95670

Attention: Guy Graening

STL Richland
2800 George Washington Way
Richland, WA 99352

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

Date Received at Lab	:	March 8, 2006
Project Name	:	Air Quality Monitoring Yerington Mine
Project Number	:	121243
Event Number	:	63
PO Number	:	129682.001
Sample Type	:	Fifteen (15) Filters
SDG Number	:	31025

CASE NARRATIVE

I. Introduction

On March 8, 2006, fifteen filter samples were received at the STL Richland (STLR) laboratory for radiochemical analysis. Upon receipt, the samples were assigned the STLR identification numbers as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J6B270158.

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

Alpha Spectroscopy

Thorium-228, -230, -232 by method RICH-RC-5087

Uranium-234, -235, -238 by method RICH-RC-5067

Gas Proportional Counters

Gross Alpha by method STL-RICHRC5016/5014

Gross Beta by method STL-RICHRC5016/5014

Radium-228 by method STL RICH-RC-5005

Alpha Scintillation Counter

Radium-226 by method STL RICH-RC-5005

IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

V. Comments

Thorium-228, -230, -232:

Sample P-0514 had a high yield on the first count and the recount. It was reanalyzed in batch 6110472. In batch 6110472 the wrong sample was reanalyzed. Sample P-0514 was reanalyzed in batch 6115380. The yields for this batch are slightly over 115%. The LCS has a 108% recovery. Data is accepted. Except as noted, the LCS, batch blank and sample results are within analytical requirements.

Uranium-234, -235, -238:

The LCS, batch blank and sample results are within analytical requirements.

Gross Alpha Analysis:

The LCS, batch blank and sample results are within analytical requirements.

Gross Beta Analysis:

On the initial analysis the LCS had a very low recovery of 71%. The batch was reanalyzed with a 79% recovery. Data is accepted. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

Radium-228 Analysis:

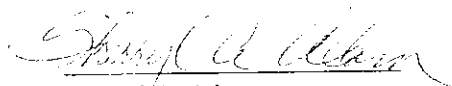
The LCS, batch blank and sample results are within analytical requirements.

Radium-226 Analysis:

The LCS, batch blank and sample results are within analytical requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:



Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

3264 Goni Road / Suite 153
Carson City, NV 89706
775-883-4118 / FAX 775-883-5108

☐ 4425 W. Spring Mountain Road / Suite 225
 Las Vegas, NV 89102
 702-938-4080 / FAX 702-938-4082

☐ 201 East Washington Street / Suite 500 • Phoenix, AZ 85004
602-567-4000 / FAX 602-567-4001

PROJECT NAME:				LABORATORY NAME & ADDRESS:											
PROJECT NUMBER:															
1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SKINMENT LOTA 66K140190															
LINE NO.	SAMPLE - I.D.	COLLECTION DATE	TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC - REQ	TAT	SAMPLING METHOD	DEPTH (FT.) BEGIN END	PUR. RESIDUE (gms)
01	000357	7/5/06	06:00	RM	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.32		----	
02	000358		06:40		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.34		----	
03	000359		07:20		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.33		----	
04	000360		07:50		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.27		----	
05	000361		08:20		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.29		----	
06	000362		08:45		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.27		----	
07	000363		08:45		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Tl, Pb, U, Th, Ra, Cs, Sr, K, Co, Ni, Zn, Cu, Fe, Mn, Cd, Cr, Hg, Se, V, Sb, Bi, Ba, Be, B, Br, Ca, Cl, F, Ga, Ge, Li, Mg, Mo, Na, Os, P, Pt, Rb, S, Sc, Si, Sn, Ta, Te, W, Xe, Y, Zr, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, In, Ir, Rh, Ru, Pd, Ag, Au, Hg, Pb, Bi, Po, At, Rn, Fr, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr			0.19		----	
08														----	
09														----	
10														----	
COLLECTED & RELEASED BY:		DATE	TIME	COOLER I.D.:				COMMENTS (see note on back):							
RECEIVED BY:		DATE	TIME	RELINQUISHED BY:		DATE	TIME	<div> <div><100 CPM</div> <div>RECEIVED IN GOOD CONDITION UNDER GOG</div> <div>SEP 14 2006</div> </div>							
RECORD RETURNED BY:		DATE	TIME	SHIPPING NUMBER:											
COURIER:															

DISTRIBUTION: WHITE - PROJECT FILE • CANARY - LAB RECEIPT • PINK - DATA MANAGEMENT • GOLDENROD - FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK.

Sample Check-in List

Date/Time Received: 02 27 06 0800

Client: BRL SDG #: 31025 NA ☐ SAF #: NA ☒

Work Order Number: JLB270158 Chain of Custody # _____

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: _____ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 30
7. Sample holding times exceeded? NA ☒ Yes ☐ No ☐
8. Samples have:
_____ tape _____ hazard labels
_____ custody seals _____ appropriate samples labels
9. Samples are:
X in good condition _____ leaking
_____ broken _____ have air bubbles
(Only for samples requiring head space)
10. Sample pH taken? NA ☒ pH < 2 ☐ pH > 2 ☐ adjusted pH ☐
11. Sample Location, Sample Collector Listed? * Yes ☐ No ☒
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [Signature] Date: 02 27 06

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

Konstadina Vlahogiani

From: Konstadina Vlahogiani
Sent: Wednesday, June 14, 2006 10:40 PM
To: 'Jordan, Erika'
Subject: RE: Yerington Event 63

Erika,

I have another request for Event 63. For gross alpha/beta, the efficiency checks are included in the data package but the background checks are not included. Please provide the background checks.

Thanks,

Dina

-----Original Message-----

From: Jordan, Erika [mailto:EJordan@stl-inc.com]
Sent: Wednesday, June 14, 2006 4:05 PM
To: Konstadina Vlahogiani
Subject: RE: Yerington Event 63

And I was just going to email you and see if you had all of your questions answered. I must have read your mind.

I will check it out and get back to you. I should be able to get you the answer this week.

Thanks
Erika

From: Konstadina Vlahogiani [mailto:dvlahogi@envstd.com]
Sent: Wednesday, June 14, 2006 7:27 AM
To: Jordan, Erika
Subject: Yerington Event 63

Erika,

According to the Alpha Spec, Ulso by ALP, Calculated Results Detailed Report (pg. 658), there are 7 counts for U-238 in sample HX8161AG and the calculated U-238 result for this sample is a detection (activity>MDA). This result is reported for U-238.

According to the Alpha Regions Report (pg. 752) for sample HX8161AG, there are 4 counts for U-238; that would make the U-238 result a non-detect.

Could you please check again the U-238 result in sample HX8161AG?

Thanks,

Dina

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential

6/28/2006

and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

Konstadina Vlahogiani

From: Konstadina Vlahogiani
Sent: Friday, June 23, 2006 3:49 PM
To: 'Jordan, Erika'
Subject: RE: Yerington Event 63
Importance: High

Erika,

I cannot use what you sent me. This is data from 2005. The samples in Event 63 were analyzed in April 2006.

-----Original Message-----

From: Jordan, Erika [mailto:EJordan@stl-inc.com]
Sent: Friday, June 23, 2006 2:46 PM
To: Konstadina Vlahogiani
Subject: RE: Yerington Event 63

Dina,

Here you go.

Thank you.
Erika

From: Konstadina Vlahogiani [mailto:dvlahogi@envstd.com]
Sent: Friday, June 23, 2006 7:04 AM
To: Jordan, Erika
Subject: RE: Yerington Event 63

Erika,

Can you send me the backgrounds for alpha and beta?

-----Original Message-----

From: Jordan, Erika [mailto:EJordan@stl-inc.com]
Sent: Thursday, June 22, 2006 2:58 PM
To: Konstadina Vlahogiani
Subject: RE: Yerington Event 63

Dina,

Alright, I have your explanation.

If you look on page 719, you will notice next to that sample ID, under comments that it says "edit". This sample was hand edited. The hand edit page is 749 and is the correct count information.

Thank you

Erika

From: Konstadina Vlahogiani [mailto:dvlahogi@envstd.com]
Sent: Wednesday, June 14, 2006 7:27 AM
To: Jordan, Erika
Subject: Yerington Event 63

Erika,

According to the Alpha Spec, Ulso by ALP, Calculated Results Detailed Report (pg. 658), there are 7 counts for U-238 in sample HX8161AG and the calculated U-238 result for this sample is a detection (activity>MDA). This result is reported for U-238.

According to the Alpha Regions Report (pg. 752) for sample HX8161AG, there are 4 counts for U-238; that would make the U-238 result a non-detect.

Could you please check again the U-238 result in sample HX8161AG?

Thanks,

Dina

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

6/28/2006

Sample Results Summary
STL Richland STL
 Ordered by Client Sample ID, Batch No.

Date: 28-Apr-06

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
000357	HX8121AG	U-234	0.376 +- 0.406	ND	pCi/sample	111%	0.474	
		U-235	0.00000 +- 0.242	ND	pCi/sample	111%	0.268	
		U-238	0.0791 +- 0.203	ND	pCi/sample	111%	0.474	
000357	HX8121AA	TH-228	0.140 +- 0.163	ND	pCi/sample	99%	0.126	
		TH-230	0.0433 +- 0.0868	ND	pCi/sample	99%	0.117	
		TH-232	0.0433 +- 0.0868	ND	pCi/sample	99%	0.117	
000357	HX8121AE	ALPHA	10.3 +- 4.89	=	pCi/sample	100%	5.18	
000357	HX8121AF	BETA	17.6 +- 4.20	=	pCi/sample	100%	5.21	
000357	HX8121AC	RA-226	-0.2400 +- 0.276	ND	pCi/sample	94%	0.604	
000357	HX8121AD	RA-228	4.50 +- 1.74	=	pCi/sample	57%	2.83	
000358	HX8131AG	U-234	-0.0183 +- 0.0368	ND	pCi/sample	97%	0.438	
		U-235	-0.0366 +- 0.0524	ND	pCi/sample	97%	0.517	
		U-238	-0.0183 +- 0.0368	ND	pCi/sample	97%	0.438	
000358	HX8131AA	TH-228	0.0928 +- 0.174	ND	pCi/sample	95%	0.342	
		TH-230	0.108 +- 0.157	ND	pCi/sample	95%	0.259	
		TH-232	0.00000 +- 0.106	ND	pCi/sample	95%	0.117	
000358	HX8131AE	ALPHA	4.17 +- 3.22	ND	pCi/sample	100%	4.86	
000358	HX8131AF	BETA	16.3 +- 4.06	=	pCi/sample	100%	5.34	
000358	HX8131AC	RA-226	0.269 +- 0.218	ND	pCi/sample	99%	0.308	
000358	HX8131AD	RA-228	1.82 +- 0.929	=	pCi/sample	88%	1.64	
000359	HX8141AG	U-234	0.194 +- 0.277	ND	pCi/sample	101%	0.262	
		U-235	-0.0194 +- 0.0390	ND	pCi/sample	101%	0.464	
		U-238	0.0968 +- 0.195	ND	pCi/sample	101%	0.262	
000359	HX8141AA	TH-228	0.0590 +- 0.236	ND	pCi/sample	95%	0.549	
		TH-230	0.467 +- 0.341	=	pCi/sample	95%	0.33	
		TH-232	0.00000 +- 0.135	ND	pCi/sample	95%	0.149	
000359	HX8141AE	ALPHA	6.84 +- 4.12	=	pCi/sample	100%	5.45	
000359	HX8141AF	BETA	18.9 +- 5.01	=	pCi/sample	100%	4.71	
000359	HX8141AC	RA-226	0.308 +- 0.292	ND	pCi/sample	111%	0.456	
000359	HX8141AD	RA-228	2.26 +- 1.02	=	pCi/sample	81%	1.74	

STL Richland RER2 - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$ as defined by ICPT BOA.
 = ERPIMS - Equal To, Analyte Detected
 rptSTLRchSaSum ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified
 V4.15.0 A97 by gamma scan software.

Sample Results Summary

Date: 28-Apr-06

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
000360	HX8151AG	U-234	1.23 +- 0.744	=	pCi/sample	110%	0.481	
		U-235	0.0655 +- 0.196	ND	pCi/sample	110%	0.515	
		U-238	0.852 +- 0.607	=	pCi/sample	110%	0.441	
000360	HX8151AA	TH-228	0.692 +- 0.371	=	pCi/sample	95%	0.125	
		TH-230	3.17 +- 0.873	=	pCi/sample	95%	0.206	
		TH-232	0.601 +- 0.333	=	pCi/sample	95%	0.116	
000360	HX8151AE	ALPHA	16.9 +- 6.29	=	pCi/sample	100%	5.1	
000360	HX8151AF	BETA	25.1 +- 5.04	=	pCi/sample	100%	5.06	
000360	HX8151AC	RA-226	0.563 +- 0.373	=	pCi/sample	104%	0.512	
000360	HX8151AD	RA-228	1.85 +- 0.948	=	pCi/sample	82%	1.73	
000361	HX8161AG	U-234	0.828 +- 0.643	=	pCi/sample	91%	0.616	
		U-235	0.00000 +- 0.267	ND	pCi/sample	91%	0.295	
		U-238	0.745 +- 0.600	=	pCi/sample	91%	0.498	
000361	HX8161AA	TH-228	0.561 +- 0.387	=	pCi/sample	98%	0.354	
		TH-230	2.20 +- 0.767	=	pCi/sample	98%	0.149	
		TH-232	0.825 +- 0.443	=	pCi/sample	98%	0.149	
000361	HX8161AE	ALPHA	9.36 +- 4.64	=	pCi/sample	100%	4.97	
000361	HX8161AF	BETA	24.7 +- 5.06	=	pCi/sample	100%	5.18	
000361	HX8161AC	RA-226	2.09 +- 0.663	=	pCi/sample	114%	0.402	
000361	HX8161AD	RA-228	21.7 +- 3.27	=	pCi/sample	101%	1.49	
000362	HX8171AG	U-234	2.00 +- 1.06	=	pCi/sample	92%	0.605	
		U-235	-0.00906 +- 0.0182	ND	pCi/sample	92%	0.456	
		U-238	0.0769 +- 0.230	ND	pCi/sample	92%	0.605	
000362	HX8171AA	TH-228	0.192 +- 0.273	ND	pCi/sample	94%	0.47	
		TH-230	0.119 +- 0.169	ND	pCi/sample	94%	0.161	
		TH-232	0.0595 +- 0.119	ND	pCi/sample	94%	0.161	
000362	HX8171AE	ALPHA	10.9 +- 5.01	=	pCi/sample	100%	5.12	
000362	HX8171AF	BETA	24.1 +- 5.02	=	pCi/sample	100%	5.29	
000362	HX8171AC	RA-226	0.114 +- 0.215	ND	pCi/sample	96%	0.387	
000362	HX8171AD	RA-228	-0.0378 +- 0.876	ND	pCi/sample	69%	2.25	

STL Richland

rptSTLRchSaSum
V4.15.0 A97

RER2 = Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPUs)+sq(TPUD))}]$ as defined by ICPT BOA.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary

Date: 28-Apr-06

STL Richland STL R

Ordered by Client Sample ID, Batch No.

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
000363	HX8181AG	U-234	-0.00891 +- 0.0179	ND	pCi/sample	93%	0.448	
		U-235	0.00000 +- 0.273	ND	pCi/sample	93%	0.302	
		U-238	-0.00891 +- 0.0179	ND	pCi/sample	93%	0.448	
000363	HX8181AA	TH-228	0.0511 +- 0.103	ND	pCi/sample	90%	0.139	
		TH-230	0.00000 +- 0.116	ND	pCi/sample	90%	0.129	
		TH-232	0.00000 +- 0.116	ND	pCi/sample	90%	0.129	
000363	HX8181AE	ALPHA	-0.8620 +- 1.56	ND	pCi/sample	100%	4.86	
000363	HX8181AF	BETA	-1.2900 +- 2.44	ND	pCi/sample	100%	5.36	
000363	HX8181AC	RA-226	0.112 +- 0.179	ND	pCi/sample	105%	0.313	
000363	HX8181AD	RA-228	0.618 +- 0.752	ND	pCi/sample	94%	1.56	
P 0510	HX81N1AG	U-234	0.0791 +- 0.203	ND	pCi/sample	105%	0.474	
		U-235	-0.0198 +- 0.0399	ND	pCi/sample	105%	0.474	
		U-238	0.00000 +- 0.242	ND	pCi/sample	105%	0.268	
P 0510	HX81N1AA	TH-228	0.0452 +- 0.181	ND	pCi/sample	98%	0.42	
		TH-230	0.147 +- 0.175	ND	pCi/sample	98%	0.252	
		TH-232	0.00000 +- 0.103	ND	pCi/sample	98%	0.114	
P 0510	HX81N1AE	ALPHA	2.11 +- 3.06	ND	pCi/sample	100%	5.96	
P 0510	HX81N1AF	BETA	13.2 +- 3.78	=	pCi/sample	100%	5.41	
P 0510	HX81N1AC	RA-226	0.264 +- 0.314	ND	pCi/sample	99%	0.522	
P 0510	HX81N1AD	RA-228	0.752 +- 1.13	ND	pCi/sample	88%	2.51	
P 0511	HX81Q1AG	U-234	0.380 +- 0.434	ND	pCi/sample	95%	0.597	
		U-235	0.00000 +- 0.259	ND	pCi/sample	95%	0.286	
		U-238	0.169 +- 0.307	ND	pCi/sample	95%	0.597	
P 0511	HX81Q1AA	TH-228	-0.0219 +- 0.0439	ND	pCi/sample	97%	0.263	
		TH-230	-0.0408 +- 0.0580	ND	pCi/sample	97%	0.3	
		TH-232	0.0204 +- 0.0912	ND	pCi/sample	97%	0.244	
P 0511	HX81Q1AE	ALPHA	2.92 +- 3.26	ND	pCi/sample	100%	5.97	
P 0511	HX81Q1AF	BETA	11.5 +- 3.62	=	pCi/sample	100%	5.03	
P 0511	HX81Q1AC	RA-226	-0.2270 +- 0.278	ND	pCi/sample	91%	0.617	
P 0511	HX81Q1AD	RA-228	1.64 +- 1.34	ND	pCi/sample	77%	2.81	

STL Richland
rptSTLRchSaSum
V4.15.0 A97

RER2 - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPU_s)+sq(TPU_d))}]$ as defined by ICPT BOA.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary
STL Richland STL R
 Ordered by Client Sample ID, Batch No.

Date: 28-Apr-06

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result + Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
P 0512	HX81R1AG	U-234	-0.0490 +- 0.277	ND	pCi/sample	78%	1.0	
		U-235	0.0489 +- 0.259	ND	pCi/sample	78%	0.772	
		U-238	-0.0979 +- 0.100	ND	pCi/sample	78%	0.841	
P 0512	HX81R1AA	TH-228	0.00000 +- 0.164	ND	pCi/sample	83%	0.182	
		TH-230	0.249 +- 0.252	ND	pCi/sample	83%	0.169	
		TH-232	0.0623 +- 0.125	ND	pCi/sample	83%	0.169	
P 0512	HX81R1AE	ALPHA	4.86 +- 3.56	ND	pCi/sample	100%	5.25	
P 0512	HX81R1AF	BETA	13.3 +- 3.79	=	pCi/sample	100%	5.53	
P 0512	HX81R1AC	RA-226	0.108 +- 0.165	ND	pCi/sample	115%	0.284	
P 0512	HX81R1AD	RA-228	-0.4360 +- 0.957	ND	pCi/sample	101%	2.35	
P 0513	HX81T1AG	U-234	0.377 +- 0.488	ND	pCi/sample	82%	0.81	
		U-235	-0.0472 +- 0.0675	ND	pCi/sample	82%	0.666	
		U-238	0.472 +- 0.548	ND	pCi/sample	82%	0.868	
P 0513	HX81T1AA	TH-228	0.370 +- 0.311	=	pCi/sample	143%	0.341	reanalyzed
		TH-230	1.38 +- 0.576	=	pCi/sample	143%	0.143	
		TH-232	0.370 +- 0.285	=	pCi/sample	143%	0.143	
P 0513	HX81T1AE	ALPHA	9.63 +- 4.91	=	pCi/sample	100%	5.86	
P 0513	HX81T1AF	BETA	19.1 +- 4.45	=	pCi/sample	100%	5.41	
P 0513	HX81T1AC	RA-226	0.263 +- 0.461	ND	pCi/sample	98%	0.801	
P 0513	HX81T1AD	RA-228	0.0491 +- 0.964	ND	pCi/sample	84%	2.32	
P 0513	HX81T2AA	TH-228	0.642 +- 0.404	=	pCi/sample	124%	0.158	
		TH-230	1.93 +- 0.730	=	pCi/sample	124%	0.145	
		TH-232	0.482 +- 0.333	=	pCi/sample	124%	0.145	
P 0514	HX81V1AG	U-234	0.0230 +- 0.248	ND	pCi/sample	80%	0.791	
		U-235	0.115 +- 0.232	ND	pCi/sample	80%	0.312	
		U-238	0.115 +- 0.425	ND	pCi/sample	80%	1.07	
P 0514	HX81V1AE	ALPHA	9.09 +- 4.52	=	pCi/sample	100%	4.93	
P 0514	HX81V1AF	BETA	16.4 +- 4.14	=	pCi/sample	100%	5.47	
P 0514	HX81V1AC	RA-226	0.141 +- 0.273	ND	pCi/sample	108%	0.489	
P 0514	HX81V1AD	RA-228	1.27 +- 0.937	ND	pCi/sample	97%	1.95	

STL Richland
 rptSTLRchSaSum
 V4.15.0 A97

RER2 - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPU_s)+sq(TPU_d))}]$ as defined by ICPT BOA.
 = ERPIMS - Equal To, Analyte Detected
 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary
STL Richland STLR
 Ordered by Client Sample ID, Batch No.

Date: 28-Apr-06

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
P 0514	HX81V3AA	TH-228	0.248 +- 0.330	ND	pCi/sample	92%	0.576	
		TH-230	0.829 +- 0.463	=	pCi/sample	92%	0.343	
		TH-232	0.171 +- 0.200	ND	pCi/sample	92%	0.155	
P 0515	HX81W1AG	U-234	0.00000 +- 0.292	ND	pCi/sample	83%	0.323	
		U-235	0.00000 +- 0.292	ND	pCi/sample	83%	0.323	
		U-238	0.0953 +- 0.244	ND	pCi/sample	83%	0.571	
P 0515	HX81W1AA	TH-228	-0.0222 +- 0.0444	ND	pCi/sample	98%	0.266	
		TH-230	0.144 +- 0.171	ND	pCi/sample	98%	0.247	
		TH-232	-0.0206 +- 0.0414	ND	pCi/sample	98%	0.247	
P 0515	HX81W1AE	ALPHA	6.53 +- 4.18	=	pCi/sample	100%	5.94	
P 0515	HX81W1AF	BETA	13.8 +- 4.03	=	pCi/sample	100%	5.06	
P 0515	HX81W1AC	RA-226	2.36 +- 0.784	=	pCi/sample	93%	0.71	
P 0515	HX81W1AD	RA-228	18.9 +- 3.11	=	pCi/sample	82%	2.54	
P 0516	HX81X1AG	U-234	0.00000 +- 0.243	ND	pCi/sample	93%	0.268	
		U-235	0.00000 +- 0.243	ND	pCi/sample	93%	0.268	
		U-238	-0.0198 +- 0.0398	ND	pCi/sample	93%	0.474	
P 0516	HX81X1AA	TH-228	0.00000 +- 0.133	ND	pCi/sample	99%	0.147	
		TH-230	0.101 +- 0.144	ND	pCi/sample	99%	0.137	
		TH-232	0.00000 +- 0.124	ND	pCi/sample	99%	0.137	
P 0516	HX81X1AE	ALPHA	2.92 +- 3.26	ND	pCi/sample	100%	5.96	
P 0516	HX81X1AF	BETA	13.3 +- 3.98	=	pCi/sample	100%	5.92	
P 0516	HX81X1AC	RA-226	-0.1180 +- 0.266	ND	pCi/sample	102%	0.574	
P 0516	HX81X1AD	RA-228	1.84 +- 0.921	=	pCi/sample	91%	1.65	
P 0517	HX8111AG	U-234	-0.0427 +- 0.0611	ND	pCi/sample	92%	0.603	
		U-235	-0.0213 +- 0.0429	ND	pCi/sample	92%	0.511	
		U-238	-0.0427 +- 0.0611	ND	pCi/sample	92%	0.603	
P 0517	HX8111AA	TH-228	-0.0208 +- 0.0418	ND	pCi/sample	95%	0.25	
		TH-230	0.116 +- 0.135	ND	pCi/sample	95%	0.105	
		TH-232	0.0194 +- 0.0868	ND	pCi/sample	95%	0.233	
P 0517	HX8111AE	ALPHA	0.00995 +- 2.12	ND	pCi/sample	100%	5.27	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPU_s)+sq(TPU_d))] as defined by ICPT BOA.
 rptSTLRchSaSum = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary
STL Richland STLR
 Ordered by Client Sample ID, Batch No.

Date: 28-Apr-06

Report No. : 32013

SDG No: 31025

Client ID	Work Order Number	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RER2
P 0517	HX8111AF	BETA	1.51 ± 2.60	ND	pCi/sample	100%	5.3	
P 0517	HX8111AC	RA-226	0.223 ± 0.195	ND	pCi/sample	106%	0.277	
P 0517	HX8111AD	RA-228	1.60 ± 0.923	ND	pCi/sample	94%	1.77	

Number of Results: 153

STL Richland
 rptSTLRchSaSum
 V4.15.0 A97

RER2 - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPU)s+sq(TPI)d)}]$ as defined by ICPT BOA.
 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

RADIOLOGICAL BLANK CONTAMINATION

NORMALIZED ABSOLUTE DIFFERENCE (NAD) LIMIT > 2.58

$$\text{NAD} = \text{ABS} (\text{SAMPLE ACT} - \text{BLANK ACT}) / \text{SQRT} [(\text{TPU SAMPLE})^2 + (\text{TPU BLANK})^2]$$

Event 63

Th-230 Method Blank

Sample No.	Sample Act	Sample TPU	Blank Act	Blank TPU	NAD
P-0514	0.829	0.46	0.0175	0.0166	1.763

Flag UJ

REPLICATE ERROR RATIO (RER) LIMIT < 1.96

$$RER = \text{ABS} (\text{SAMPLE ACT} - \text{DUPLICATE ACT}) / \text{SQRT} [(\text{TPU SAMPLE})^2 + (\text{TPU DUPLICATE})^2]$$

Samples: P-0510 & P-0516

[illegible]

QC Results Summary
STL Richland STL
 Ordered by QC Type, Batch No.

Date: 28-Apr-06

Report No. : 32013

SDG No.: 31025

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
BLANK QC	H0EHT1AA	U-234	0.00000 +- 0.0165	N	pCi/sample	98%			0.0183
		U-235	-0.00269 +- 0.00385	N	pCi/sample	98%			0.038
		U-238	0.00000 +- 0.0165	N	pCi/sample	98%			0.0183
BLANK QC	H0EP81AA	TH-228	0.00399 +- 0.0126	N	pCi/sample	93%			0.0294
	batch 6060336	TH-230	0.00928 +- 0.0134	N	pCi/sample	93%			0.0223
		TH-232	0.00000 +- 0.00909	N	pCi/sample	93%			0.0101
BLANK QC	H0EQF1AA	ALPHA	-0.0278 +- 0.0349	N	pCi/sample	100%			0.113
BLANK QC	H0EQR1AA	BETA	0.221 +- 0.216	N	pCi/sample	100%			0.423
BLANK QC	H0EQ51AA	RA-226	-0.0446 +- 0.0583	N	pCi/sample	112%			0.132
BLANK QC	H0ERC1AA	RA-228	0.0967 +- 0.187	N	pCi/sample	99%			0.431
BLANK QC	H3PLC1AA	TH-228	0.00000 +- 0.00971	N	pCi/sample	94%			0.0107
	batch 6110472	TH-230	0.0175 +- 0.0166	=	pCi/sample	94%			0.0175
		TH-232	0.00000 +- 0.00895	N	pCi/sample	94%			0.0099
BLANK QC	H31531AA	TH-228	0.00373 +- 0.00749	N	pCi/sample	122%			0.0101
	batch 6115380	TH-230	0.00617 +- 0.00984	N	pCi/sample	122%			0.0164
		TH-232	0.00000 +- 0.00839	N	pCi/sample	122%			0.00928
LCS	H0EHT1AC	U-234	1.10 +- 0.316	=	pCi/sample	94%	110%	0.1	0.0576
		U-238	0.857 +- 0.259	=	pCi/sample	94%	82%	-0.2	0.0375
LCS	H0EP81AC	TH-230	1.90 +- 0.333	=	pCi/sample	92%	106%	0.1	0.0287
LCS	H0EQF1AC	ALPHA	✓ 2.33 +- 0.536	=	pCi/sample	100%	102%	0.0	0.106
LCS	H0EQR2AC	BETA	3.56 +- 0.619	=	pCi/sample	100%	79%	-0.2	0.426
LCS	H0EQ51AC	RA-226	✓ 1.40 +- 0.366	=	pCi/sample	100%	103%	0.0	0.138
LCS	H0ERC1AC	RA-228	✓ 3.88 +- 0.658	=	pCi/sample	86%	76%	-0.2	0.442
LCS	H3PLC1AC	TH-230	1.67 +- 0.277	=	pCi/sample	92%	92%	-0.1	0.0209
LCS	H31531AC	TH-230	1.99 +- 0.363	=	pCi/sample	117%	108%	0.1	0.00756

associated with HX 81V3 AA only

Number of Results: 25

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSum = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:05:00 AM

Lot-Sample No.: J6B270158-9

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000357

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX8121AG Report DB ID: 9HX81210												
U-234	0.376	ND	0.40	0.41	0.474	pCi/sample	111%	0.79	4/13/06 07:01 p	1.0	0.06163	E908.0
						0.103	1.0	(1.9)		Sample	Sample	ALP10
U-235	0.00000	ND	0.0000	0.24	0.268	pCi/sample	111%	0.	4/13/06 07:01 p	1.0	0.06163	E908.0
							1.0	0.		Sample	Sample	ALP10
U-238	0.0791	ND	0.20	0.20	0.474	pCi/sample	111%	0.17	4/13/06 07:01 p	1.0	0.06163	E908.0
						0.103	1.0	0.78		Sample	Sample	ALP10
Ratio U-234/238 = 4.8												
Batch: 6060336 Work Order: HX8121AA Report DB ID: 9HX81210												
TH-228	0.140	ND	0.16	0.16	0.126	pCi/sample	99%	(1.1)	4/12/06 08:39 p	1.0	0.08283	ISOTH
							1.0	(1.7)		Sample	Sample	ALP113
TH-230	0.0433	ND	0.087	0.087	0.117	pCi/sample	99%	0.37	4/12/06 08:39 p	1.0	0.08283	ISOTH
							1.0	1.		Sample	Sample	ALP113
TH-232	0.0433	ND	0.087	0.087	0.117	pCi/sample	99%	0.37	4/12/06 08:39 p	1.0	0.08283	ISOTH
							1.0	1.		Sample	Sample	ALP113
Batch: 6060337 Work Order: HX8121AE Report DB ID: 9HX81210												
ALPHA	10.3	=	4.4	4.9	5.18	pCi/sample	100%	(2.)	4/7/06 08:42 a	1.0	0.0207	E900.0
						2.09	20.0	(4.2)		Sample	Sample	GPC10A
Batch: 6060339 Work Order: HX8121AF Report DB ID: 9HX81210												
BETA	17.6	=	3.5	4.2	5.21	pCi/sample	100%	(3.4)	4/5/06 10:15 a	1.0	0.08295	E900.0
						2.49	5.0	(8.4)		Sample	Sample	GPC26D
Batch: 6060342 Work Order: HX8121AC Report DB ID: 9HX81210												

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rp1STLRchSample = ERPIMS - Equal To, Analyte Detected

V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:05:00 AM

Lot-Sample No.: J6B270158-9

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000357

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.2400	ND	0.27	0.28	0.604	pCi/sample	94%	-0.4	4/10/06 03:21 p	0.833	0.24802	E903.1
						0.268	1.0	-(1.7)		Sample	Sample	ASCCSA
Batch: 6060344	Work Order: HX8121AD		Report DB ID: 9HX81210									
RA-228	4.50	=	1.6	1.7	2.83	pCi/sample	57%	(1.6)	4/12/06 06:42 a	1.0	0.24802	E904.0
						1.22	3.1	(5.2)		Sample	Sample	GPC2C

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:40:00 AM

Lot-Sample No.: J6B270158-10

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000358

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX8131AG		Report DB ID: 9HX81310									
U-234	-0.0183	ND	0.037	0.037	0.438	pCi/sample	97%	-0.04	4/13/06 07:01 p	1.0	0.06253	E908.0
						0.0951	1.0	-0.99		Sample	Sample	ALP11
U-235	-0.0366	ND	0.052	0.052	0.517	pCi/sample	97%	-0.07	4/13/06 07:01 p	1.0	0.06253	E908.0
						0.135	1.0	-(1.4)		Sample	Sample	ALP11
U-238	-0.0183	ND	0.037	0.037	0.438	pCi/sample	97%	-0.04	4/13/06 07:01 p	1.0	0.06253	E908.0
						0.0951	1.0	-0.99		Sample	Sample	ALP11
Ratio U-234/238 = 1.0												
Batch: 6060336	Work Order: HX8131AA		Report DB ID: 9HX81310									
TH-228	0.0928	ND	0.17	0.17	0.342	pCi/sample	95%	0.27	4/12/06 08:40 p	1.0	0.08393	ISOTH
						0.108	1.0	(1.1)		Sample	Sample	ALP114
TH-230	0.108	ND	0.16	0.16	0.259	pCi/sample	95%	0.42	4/12/06 08:40 p	1.0	0.08393	ISOTH
						0.0711	1.0	(1.4)		Sample	Sample	ALP114
TH-232	0.00000	ND	0.0000	0.11	0.117	pCi/sample	95%	0.	4/12/06 08:40 p	1.0	0.08393	ISOTH
							1.0	0.		Sample	Sample	ALP114
Batch: 6060337	Work Order: HX8131AE		Report DB ID: 9HX81310									
ALPHA	4.17	ND	3.1	3.2	4.86	pCi/sample	100%	0.86	4/7/06 08:42 a	1.0	0.0208	E900.0
						1.94	20.0	(2.6)		Sample	Sample	GPC10B
Batch: 6060339	Work Order: HX8131AF		Report DB ID: 9HX81310									
BETA	16.3	=	3.4	4.1	5.34	pCi/sample	100%	(3.)	4/5/06 10:15 a	1.0	0.08367	E900.0
						2.56	5.0	(8.)		Sample	Sample	GPC27A
Batch: 6060342	Work Order: HX8131AC		Report DB ID: 9HX81310									

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample = ERPIMS - Equal To, Analyte Detected

V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:40:00 AM

Lot-Sample No.: J6B270158-10

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000358

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.269	ND	0.21	0.22	0.308	pCi/sample	99%	0.87	4/10/06 03:19 p	0.833	0.2505	E903.1
						0.124	1.0	(2.5)		Sample	Sample	ASCDUD
Batch: 6060344 Work Order: HX8131AD Report DB ID: 9HX81310												
RA-228	1.82	=	0.89	0.93	1.64	pCi/sample	88%	(1.1)	4/12/06 06:42 a	1.0	0.2505	E904.0
						0.69	3.1	(3.9)		Sample	Sample	GPC2D

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:20:00 AM

Lot-Sample No.: J6B270158-11

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000359

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX8141AG Report DB ID: 9HX81410												
U-234	0.194	ND	0.27	0.28	0.262	pCi/sample	101%	0.74 (1.4)	4/13/06 07:01 p	1.0 Sample	0.06217 Sample	E908.0 ALP12
U-235	-0.0194	ND	0.039	0.039	0.464	pCi/sample	101%	-0.04 -0.99	4/13/06 07:01 p	1.0 Sample	0.06217 Sample	E908.0 ALP12
U-238	0.0968	ND	0.19	0.19	0.262	pCi/sample	101%	0.37 0.99	4/13/06 07:01 p	1.0 Sample	0.06217 Sample	E908.0 ALP12
Ratio U-234/238 = 2.0												
Batch: 6060336 Work Order: HX8141AA Report DB ID: 9HX81410												
TH-228	0.0590	ND	0.24	0.24	0.549	pCi/sample	95%	0.11 0.5	4/12/06 08:40 p	1.0 Sample	0.08404 Sample	ISOTH ALP116
TH-230	0.467	=	0.33	0.34	0.33	pCi/sample	95%	(1.4) (2.7)	4/12/06 08:40 p	1.0 Sample	0.08404 Sample	ISOTH ALP116
TH-232	0.00000	ND	0.0000	0.13	0.149	pCi/sample	95%	0. 0.	4/12/06 08:40 p	1.0 Sample	0.08404 Sample	ISOTH ALP116
Batch: 6060337 Work Order: HX8141AE Report DB ID: 9HX81410												
ALPHA	6.84	=	3.9	4.1	5.45	pCi/sample	100%	(1.3) (3.3)	4/7/06 08:42 a	1.0 Sample	0.02079 Sample	E900.0 GPC10C
Batch: 6060339 Work Order: HX8141AF Report DB ID: 9HX81410												
BETA	18.9	=	3.2	5.0	4.71	pCi/sample	100%	(4.) (7.5)	4/5/06 10:15 a	1.0 Sample	0.08318 Sample	E900.0 GPC27B
Batch: 6060342 Work Order: HX8141AC Report DB ID: 9HX81410												

STL Richland
rptSTLRchSample
V4.15.0 A97MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:20:00 AM

Lot-Sample No.: J6B270158-11

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000359

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
RA-226	0.308	ND	0.28	0.29	0.456	pCi/sample	111%	0.68	4/10/06 03:20 p	0.833	0.24976	E903.1
						0.198	1.0	(2.1)		Sample	Sample	ASCEHA
Batch: 6060344 Work Order: HX8141AD Report DB ID: 9HX81410												
RA-228	2.26	=	0.97	1.0	1.74	pCi/sample	81%	(1.3)	4/12/06 06:43 a	1.0	0.24976	E904.0
						0.736	3.1	(4.4)		Sample	Sample	GPC3A

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 NO Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:50:00 AM

Lot-Sample No.: J6B270158-12

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000360

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX8151AG Report DB ID: 9HX81510												
U-234	1.23	=	0.70	0.74	0.481	pCi/sample	110%	(2.6)	4/13/06 07:02 p	1.0	0.06237	E908.0
						0.11	1.0	(3.3)		Sample	Sample	ALP69
U-235	0.0655	ND	0.20	0.20	0.515	pCi/sample	110%	0.13	4/13/06 07:02 p	1.0	0.06237	E908.0
						0.127	1.0	0.67		Sample	Sample	ALP69
U-238	0.852	=	0.58	0.61	0.441	pCi/sample	110%	(1.9)	4/13/06 07:02 p	1.0	0.06237	E908.0
						0.0898	1.0	(2.8)		Sample	Sample	ALP69
Ratio U-234/238 = 1.4												
Batch: 6060336 Work Order: HX8151AA Report DB ID: 9HX81510												
TH-228	0.692	=	0.36	0.37	0.125	pCi/sample	95%	(5.5)	4/12/06 08:40 p	1.0	0.08378	ISOTH
							1.0	(3.7)		Sample	Sample	ALP117
TH-230	3.17	=	0.74	0.87	0.206	pCi/sample	95%	(15.4)	4/12/06 08:40 p	1.0	0.08378	ISOTH
						0.0446	1.0	(7.3)		Sample	Sample	ALP117
TH-232	0.601	=	0.32	0.33	0.116	pCi/sample	95%	(5.2)	4/12/06 08:40 p	1.0	0.08378	ISOTH
							1.0	(3.6)		Sample	Sample	ALP117
Batch: 6060337 Work Order: HX8151AE Report DB ID: 9HX81510												
ALPHA	16.9	=	5.3	6.3	5.1	pCi/sample	100%	(3.3)	4/7/06 08:42 a	1.0	0.02093	E900.0
						2.08	20.0	(5.4)		Sample	Sample	GPC10D
Batch: 6060339 Work Order: HX8151AF Report DB ID: 9HX81510												
BETA	25.1	=	3.7	5.0	5.06	pCi/sample	100%	(5.)	4/5/06 10:15 a	1.0	0.08357	E900.0
						2.42	5.0	(10.)		Sample	Sample	GPC27C
Batch: 6060342 Work Order: HX8151AC Report DB ID: 9HX81510												

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:50:00 AM

Lot-Sample No.: J6B270158-12

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000360

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC/MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.563	=	0.35	0.37	0.512	pCi/sample	104%	(1.1)	4/10/06 03:21 p	0.833	0.25151	E903.1
						0.221	1.0	(3.)		Sample	Sample	ASCGSB
Batch: 6060344			Work Order: HX8151AD			Report DB ID: 9HX81510						
RA-228	1.85	=	0.91	0.95	1.73	pCi/sample	82%	(1.1)	4/12/06 06:43 a	1.0	0.25151	E904.0
						0.739	3.1	(3.9)		Sample	Sample	GPC3B

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:20:00 AM

Lot-Sample No.: J6B270158-13

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000361

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX8161AG Report DB ID: 9HX81610												
U-234	0.828	=	0.62	0.64	0.616	pCi/sample	91%	(1.3)	4/13/06 07:02 p	1.0	0.06193	E908.0
						0.16	1.0	(2.6)		Sample	Sample	ALP71
U-235	0.00000	ND	0.0000	0.27	0.295	pCi/sample	91%	0.	4/13/06 07:02 p	1.0	0.06193	E908.0
							1.0	0.		Sample	Sample	ALP71
U-238	0.745	=	0.58	0.60	0.498	pCi/sample	91%	(1.5)	4/13/06 07:02 p	1.0	0.06193	E908.0
						0.101	1.0	(2.5)		Sample	Sample	ALP71
Ratio U-234/238 = 1.1												
Batch: 6060336 Work Order: HX8161AA Report DB ID: 9HX81610												
TH-228	0.561	=	0.38	0.39	0.354	pCi/sample	98%	(1.6)	4/12/06 08:40 p	1.0	0.08285	ISOTH
						0.0972	1.0	(2.9)		Sample	Sample	ALP119
TH-230	2.20	=	0.70	0.77	0.149	pCi/sample	98%	(14.8)	4/12/06 08:40 p	1.0	0.08285	ISOTH
							1.0	(5.7)		Sample	Sample	ALP119
TH-232	0.825	=	0.43	0.44	0.149	pCi/sample	98%	(5.5)	4/12/06 08:40 p	1.0	0.08285	ISOTH
							1.0	(3.7)		Sample	Sample	ALP119
Batch: 6060337 Work Order: HX8161AE Report DB ID: 9HX81610												
ALPHA	9.36	=	4.2	4.6	4.97	pCi/sample	100%	(1.9)	4/7/06 08:42 a	1.0	0.0209	E900.0
						1.98	20.0	(4.)		Sample	Sample	GPC10E
Batch: 6060339 Work Order: HX8161AF Report DB ID: 9HX81610												
BETA	24.7	=	3.7	5.1	5.18	pCi/sample	100%	(4.8)	4/5/06 10:15 a	1.0	0.083	E900.0
						2.48	5.0	(9.7)		Sample	Sample	GPC27D
Batch: 6060342 Work Order: HX8161AC Report DB ID: 9HX81610												

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLrChSample = ERPIMS - Equal To, Analyte Detected

V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:20:00 AM

Lot-Sample No.: J6B270158-13

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000361

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
RA-226	2.09	=	0.50	0.66	0.402	pCi/sample	114%	(5.2)	4/10/06 03:19 p	0.833	0.2483	E903.1
						0.167	1.0	(6.3)		Sample	Sample	ASCJSB
Batch: 6060344			Work Order: HX8161AD			Report DB ID: 9HX81610						
RA-228	21.7	=	2.1	3.3	1.49	pCi/sample	101%	(14.6)	4/12/06 06:43 a	1.0	0.2483	E904.0
						0.638	3.1	(13.2)		Sample	Sample	GPC3C

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:45:00 AM

Lot-Sample No.: J6B270158-14

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000362

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX8171AG				Report DB ID: 9HX81710							
U-234	2.00	=	0.96	1.1	0.605	pCi/sample	92%	(3.3)	4/13/06 07:02 p	1.0	0.06232	E908.0
						0.149	1.0	(3.8)		Sample	Sample	ALP83
U-235	-0.00906	ND	0.018	0.018	0.456	pCi/sample	92%	-0.02	4/13/06 07:02 p	1.0	0.06232	E908.0
						0.0745	1.0	-0.99		Sample	Sample	ALP83
U-238	0.0769	ND	0.23	0.23	0.605	pCi/sample	92%	0.13	4/13/06 07:02 p	1.0	0.06232	E908.0
						0.149	1.0	0.67		Sample	Sample	ALP83
Ratio U-234/238 = 26.0												
Batch: 6060336	Work Order: HX8171AA				Report DB ID: 9HX81710							
TH-228	0.192	ND	0.27	0.27	0.47	pCi/sample	94%	0.41	4/12/06 08:41 p	1.0	0.08311	ISOTH
						0.149	1.0	(1.4)		Sample	Sample	ALP120
TH-230	0.119	ND	0.17	0.17	0.161	pCi/sample	94%	0.74	4/12/06 08:41 p	1.0	0.08311	ISOTH
							1.0	(1.4)		Sample	Sample	ALP120
TH-232	0.0595	ND	0.12	0.12	0.161	pCi/sample	94%	0.37	4/12/06 08:41 p	1.0	0.08311	ISOTH
							1.0	1.		Sample	Sample	ALP120
Batch: 6060337	Work Order: HX8171AE				Report DB ID: 9HX81710							
ALPHA	10.9	=	4.5	5.0	5.12	pCi/sample	100%	(2.1)	4/7/06 11:31 a	1.0	0.02095	E900.0
						2.07	20.0	(4.4)		Sample	Sample	GPC10A
Batch: 6060339	Work Order: HX8171AF				Report DB ID: 9HX81710							
BETA	24.1	=	3.8	5.0	5.29	pCi/sample	100%	(4.6)	4/5/06 11:54 a	1.0	0.08384	E900.0
						2.53	5.0	(9.6)		Sample	Sample	GPC32A
Batch: 6060342	Work Order: HX8171AC				Report DB ID: 9HX81710							

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:45:00 AM

Lot-Sample No.: J6B270158-14

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000362

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.114	ND	0.21	0.22	0.387	pCi/sample	96%	0.29	4/10/06 03:19 p	0.833	0.24927	E903.1
						0.158	1.0	(1.1)		Sample	Sample	ASCKMD
Batch: 6060344	Work Order: HX8171AD			Report DB ID: 9HX81710								
RA-228	-0.0378	ND	0.88	0.88	2.25	pCi/sample	69%	-0.02	4/12/06 06:43 a	1.0	0.24927	E904.0
						0.969	3.1	-0.09		Sample	Sample	GPC3D

Number of Results: 10

Comments:

STL Richland

rptSTLRchSample
V4.15.0 A97

MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:45:00 AM

Lot-Sample No.: J6B270158-15

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000363

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX8181AG				Report DB ID: 9HX81810							
U-234	-0.00891	ND	0.018	0.018	0.448	pCi/sample	93%	-0.02	4/13/06 07:02 p	1.0	0.06257	E908.0
						0.0733	1.0	-0.99		Sample	Sample	ALP84
U-235	0.00000	ND	0.0000	0.27	0.302	pCi/sample	93%	0.	4/13/06 07:02 p	1.0	0.06257	E908.0
							1.0	0.		Sample	Sample	ALP84
U-238	-0.00891	ND	0.018	0.018	0.448	pCi/sample	93%	-0.02	4/13/06 07:02 p	1.0	0.06257	E908.0
						0.0733	1.0	-0.99		Sample	Sample	ALP84
Ratio U-234/238 = 1.0												
Batch: 6060336	Work Order: HX8181AA				Report DB ID: 9HX81810							
TH-228	0.0511	ND	0.10	0.10	0.139	pCi/sample	90%	0.37	4/13/06 10:42 a	1.0	0.08325	ISOTH
							1.0	1.		Sample	Sample	ALP113
TH-230	0.00000	ND	0.0000	0.12	0.129	pCi/sample	90%	0.	4/13/06 10:42 a	1.0	0.08325	ISOTH
							1.0	0.		Sample	Sample	ALP113
TH-232	0.00000	ND	0.0000	0.12	0.129	pCi/sample	90%	0.	4/13/06 10:42 a	1.0	0.08325	ISOTH
							1.0	0.		Sample	Sample	ALP113
Batch: 6060337	Work Order: HX8181AE				Report DB ID: 9HX81810							
ALPHA	-0.8620	ND	1.5	1.6	4.86	pCi/sample	100%	-0.18	4/7/06 11:31 a	1.0	0.02085	E900.0
						1.94	20.0	-(1.1)		Sample	Sample	GPC10B
Batch: 6060339	Work Order: HX8181AF				Report DB ID: 9HX81810							
BETA	-1.2900	ND	2.4	2.4	5.36	pCi/sample	100%	-0.24	4/5/06 11:54 a	1.0	0.08447	E900.0
						2.57	5.0	-(1.1)		Sample	Sample	GPC32B
Batch: 6060342	Work Order: HX8181AC				Report DB ID: 9HX81810							

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 = ERPIMS - Equal To, Analyte Detected
 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:45:00 AM

Lot-Sample No.: J6B270158-15

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: 000363

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.112	ND	0.18	0.18	0.313	pCi/sample	105%	0.36	4/10/06 03:14 p	0.833	0.25094	E903.1
						0.129	1.0	(1.2)		Sample	Sample	ASCLMB
Batch: 6080344	Work Order: HX8181AD	Report DB ID: 9HX81810										
RA-228	0.618	ND	0.75	0.75	1.66	pCi/sample	94%	0.37	4/12/06 06:43 a	1.0	0.25094	E904.0
						0.721	3.1	(1.6)		Sample	Sample	GPC4A

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:00:00 AM

Lot-Sample No.: J6B270158-1

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0510

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX81N1AG Report DB ID: 9HX81N10												
U-234	0.0791	ND	0.20	0.20	0.474	pCi/sample	105%	0.17	4/13/06 06:58 p	1.0	0.06215	E908.0
						0.103	1.0	0.78		Sample	Sample	ALP1
U-235	-0.0198	ND	0.040	0.040	0.474	pCi/sample	105%	-0.04	4/13/06 06:58 p	1.0	0.06215	E908.0
						0.103	1.0	-0.99		Sample	Sample	ALP1
U-238	0.00000	ND	0.0000	0.24	0.268	pCi/sample	105%	0.	4/13/06 06:58 p	1.0	0.06215	E908.0
							1.0	0.		Sample	Sample	ALP1
29 Batch: 6060336 Work Order: HX81N1AA Report DB ID: 9HX81N10												
TH-228	0.0452	ND	0.18	0.18	0.42	pCi/sample	98%	0.11	4/12/06 08:39 p	1.0	0.08281	ISOTH
						0.149	1.0	0.5		Sample	Sample	ALP171
TH-230	0.147	ND	0.17	0.17	0.252	pCi/sample	98%	0.58	4/12/06 08:39 p	1.0	0.08281	ISOTH
						0.0692	1.0	(1.7)		Sample	Sample	ALP171
TH-232	0.00000	ND	0.0000	0.10	0.114	pCi/sample	98%	0.	4/12/06 08:39 p	1.0	0.08281	ISOTH
							1.0	0.		Sample	Sample	ALP171
Batch: 6060337 Work Order: HX81N1AE Report DB ID: 9HX81N10												
ALPHA	2.11	ND	3.0	3.1	5.96	pCi/sample	100%	0.35	4/6/06 06:03 p	1.0	0.02091	E900.0
						2.48	20.0	(1.4)		Sample	Sample	GPC10C
Batch: 6060339 Work Order: HX81N1AF Report DB ID: 9HX81N10												
BETA	13.2	=	3.3	3.8	5.41	pCi/sample	100%	(2.4)	4/5/06 09:14 a	1.0	0.08278	E900.0
						2.59	5.0	(7.)		Sample	Sample	GPC31A
Batch: 6060342 Work Order: HX81N1AC Report DB ID: 9HX81N10												

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:00:00 AM

Lot-Sample No.: J6B270158-1

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0510

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.264	ND	0.31	0.31	0.522	pCi/sample	99%	0.5	4/10/06 02:53 p	0.833	0.25113	E903.1
						0.233	1.0	(1.7)		Sample	Sample	ASC1RH
Batch: 6060344			Work Order: HX81N1AD			Report DB ID: 9HX81N10						
RA-228	0.752	ND	1.1	1.1	2.51	pCi/sample	88%	0.3	4/12/06 06:41 a	1.0	0.25111	E904.0
						1.14	3.1	(1.3)		Sample	Sample	GPC7A

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:35:00 AM

Lot-Sample No.: J6B270158-2

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0511

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX81Q1AG Report DB ID: 9HX81Q10												
U-234	0.380	ND	0.43	0.43	0.597	pCi/sample	95%	0.64	4/13/06 06:59 p	1.0	0.06228	E908.0
						0.155	1.0	(1.7)		Sample	Sample	ALP2
U-235	0.00000	ND	0.0000	0.26	0.286	pCi/sample	95%	0.	4/13/06 06:59 p	1.0	0.06228	E908.0
							1.0	0.		Sample	Sample	ALP2
U-238	0.169	ND	0.30	0.31	0.597	pCi/sample	95%	0.28	4/13/06 06:59 p	1.0	0.06228	E908.0
						0.155	1.0	(1.1)		Sample	Sample	ALP2
Ratio U-234/238 = 2.3												
Batch: 6060336 Work Order: HX81Q1AA Report DB ID: 9HX81Q10												
TH-228	-0.0219	ND	0.044	0.044	0.263	pCi/sample	97%	-0.08	4/12/06 08:39 p	1.0	0.08318	ISOTH
						0.0721	1.0	-1.		Sample	Sample	ALP172
TH-230	-0.0408	ND	0.058	0.058	0.3	pCi/sample	97%	-0.14	4/12/06 08:39 p	1.0	0.08318	ISOTH
						0.0948	1.0	-(1.4)		Sample	Sample	ALP172
TH-232	0.0204	ND	0.091	0.091	0.244	pCi/sample	97%	0.08	4/12/06 08:39 p	1.0	0.08318	ISOTH
						0.067	1.0	0.45		Sample	Sample	ALP172
Batch: 6060337 Work Order: HX81Q1AE Report DB ID: 9HX81Q10												
ALPHA	2.92	ND	3.2	3.3	5.97	pCi/sample	100%	0.49	4/6/06 06:03 p	1.0	0.02082	E900.0
						2.52	20.0	(1.8)		Sample	Sample	GPC10D
Batch: 6060339 Work Order: HX81Q1AF Report DB ID: 9HX81Q10												
BETA	11.5	=	3.0	3.6	5.03	pCi/sample	100%	(2.3)	4/5/06 09:14 a	1.0	0.08315	E900.0
						2.41	5.0	(6.4)		Sample	Sample	GPC31B
Batch: 6060342 Work Order: HX81Q1AC Report DB ID: 9HX81Q10												

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:35:00 AM

Lot-Sample No.: J6B270158-2

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0511

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.2270	ND	0.27	0.28	0.617	pCi/sample	91%	-0.37	4/10/06 02:51 p	0.833	0.25022	E903.1
						0.272	1.0	-(1.6)		Sample	Sample	ASC2RC
Batch: 6060344			Work Order: HX81Q1AD			Report DB ID: 9HX81Q10						
RA-228	1.64	ND	1.3	1.3	2.81	pCi/sample	77%	0.58	4/12/06 06:41 a	1.0	0.25022	E904.0
						1.28	3.1	(2.4)		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:15:00 AM

Lot-Sample No.: J6B270158-3

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0512

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC/MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX81R1AG				Report DB ID: 9HX81R10							
U-234	-0.0490	ND	0.28	0.28	1.0	pCi/sample	78%	-0.05	4/13/06 06:59 p	1.0	0.06246	E908.0
						0.337	1.0	-0.35		Sample	Sample	ALP3
U-235	0.0489	ND	0.26	0.26	0.772	pCi/sample	78%	0.06	4/13/06 06:59 p	1.0	0.06246	E908.0
						0.221	1.0	0.38		Sample	Sample	ALP3
U-238	-0.0979	ND	0.098	0.10	0.841	pCi/sample	78%	-0.12	4/13/06 06:59 p	1.0	0.06246	E908.0
						0.255	1.0	-(2.)		Sample	Sample	ALP3
Ratio U-234/238 = 0.5												
Batch: 6060336	Work Order: HX81R1AA				Report DB ID: 9HX81R10							
TH-228	0.00000	ND	0.0000	0.16	0.182	pCi/sample	83%	0.	4/12/06 08:39 p	1.0	0.08383	ISOTH
							1.0	0.		Sample	Sample	ALP173
TH-230	0.249	ND	0.25	0.25	0.169	pCi/sample	83%	(1.5)	4/12/06 08:39 p	1.0	0.08383	ISOTH
							1.0	(2.)		Sample	Sample	ALP173
TH-232	0.0623	ND	0.12	0.13	0.169	pCi/sample	83%	0.37	4/12/06 08:39 p	1.0	0.08383	ISOTH
							1.0	1.		Sample	Sample	ALP173
Batch: 6060337	Work Order: HX81R1AE				Report DB ID: 9HX81R10							
ALPHA	4.86	ND	3.4	3.6	5.25	pCi/sample	100%	0.93	4/6/06 06:03 p	1.0	0.02087	E900.0
						2.12	20.0	(2.7)		Sample	Sample	GPC10E
Batch: 6060339	Work Order: HX81R1AF				Report DB ID: 9HX81R10							
BETA	13.3	=	3.3	3.8	5.53	pCi/sample	100%	(2.4)	4/5/06 09:14 a	1.0	0.08319	E900.0
						2.66	5.0	(7.)		Sample	Sample	GPC31C
Batch: 6060342	Work Order: HX81R1AC				Report DB ID: 9HX81R10							

STL Richland MDC/MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLrchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:15:00 AM

Lot-Sample No.: J6B270158-3

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0512

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
RA-226	0.108	ND	0.16	0.16	0.284	pCi/sample	115%	0.38	4/10/06 02:51 p	0.833	0.25079	E903.1
						0.113	1.0	(1.3)		Sample	Sample	ASC3MA
Batch: 6060344	Work Order: HX81R1AD				Report DB ID: 9HX81R10							
RA-228	-0.4360	ND	0.96	0.96	2.35	pCi/sample	101%	-0.19	4/12/06 06:41 a	1.0	0.25079	E904.0
						1.08	3.1	-0.91		Sample	Sample	GPC7C

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:45:00 AM

Lot-Sample No.: J6B270158-4

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0513

COC No.:

Matrix: AIR

Ordered by Client Sample ID, Batch No.

Yerington Air Quality - Event #63

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX81T1AG			Report DB ID: 9HX81T10								
U-234	0.377	ND	0.48	0.49	0.81	pCi/sample	82%	0.47	4/13/06 06:59 p	1.0	0.06148	E908.0
						0.245	1.0	(1.5)		Sample	Sample	ALP4
U-235	-0.0472	ND	0.067	0.068	0.666	pCi/sample	82%	-0.07	4/13/06 06:59 p	1.0	0.06148	E908.0
						0.173	1.0	-(1.4)		Sample	Sample	ALP4
U-238	0.472	ND	0.54	0.55	0.868	pCi/sample	82%	0.54	4/13/06 06:59 p	1.0	0.06148	E908.0
						0.274	1.0	(1.7)		Sample	Sample	ALP4
Ratio U-234/238 = 0.8												
Batch: 6060336	Work Order: HX81T1AA			Report DB ID: 9HX81T10								
TH-228	0.370	=	0.31	0.31	0.341	pCi/sample	143%	(1.1)	4/12/06 08:39 p	1.0	0.08199	ISOTH
						0.0936	1.0	(2.4)		Sample	Sample	ALP174
TH-230	1.38	=	0.54	0.58	0.143	pCi/sample	143%	(9.6)	4/12/06 08:39 p	1.0	0.08199	ISOTH
							1.0	(4.8)		Sample	Sample	ALP174
TH-232	0.370	=	0.28	0.29	0.143	pCi/sample	143%	(2.6)	4/12/06 08:39 p	1.0	0.08199	ISOTH
							1.0	(2.6)		Sample	Sample	ALP174
Batch: 6060337	Work Order: HX81T1AE			Report DB ID: 9HX81T10								
ALPHA	9.63	=	4.5	4.9	5.86	pCi/sample	100%	(1.6)	4/6/06 08:46 p	1.0	0.02052	E900.0
						2.43	20.0	(3.9)		Sample	Sample	GPC10A
Batch: 6060339	Work Order: HX81T1AF			Report DB ID: 9HX81T10								
BETA	19.1	=	3.6	4.5	5.41	pCi/sample	100%	(3.5)	4/5/06 09:14 a	1.0	0.08204	E900.0
						2.59	5.0	(8.6)		Sample	Sample	GPC32A
Batch: 6060342	Work Order: HX81T1AC			Report DB ID: 9HX81T10								

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample = ERPIMS - Equal To, Analyte Detected

V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 7:45:00 AM

Lot-Sample No.: J6B270158-4

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0513

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.263	ND	0.46	0.46	0.801	pCi/sample	98%	0.33	4/10/06 02:50 p	0.833	0.24625	E903.1
						0.369	1.0	(1.1)		Sample	Sample	ASC4HB
Batch: 6060344	Work Order: HX81T1AD				Report DB ID: 9HX81T10							
RA-228	0.0491	ND	0.96	0.96	2.32	pCi/sample	84%	0.02	4/12/06 06:42 a	1.0	0.24626	E904.0
						1.05	3.1	0.1		Sample	Sample	GPC1A
Batch: 6115380	Work Order: HX81T2AA				Report DB ID: 9HX81T20							
TH-228	0.642	=	0.39	0.40	0.158	pCi/sample	124%	(4.1)	4/26/06 07:35 p	1.0	0.08224	ISOTH
							1.0	(3.2)		Sample	Sample	ALP116
TH-230	1.93	=	0.64	0.73	0.145	pCi/sample	124%	(13.3)	4/26/06 07:35 p	1.0	0.08224	ISOTH
							1.0	(5.3)		Sample	Sample	ALP116
TH-232	0.482	=	0.32	0.33	0.145	pCi/sample	124%	(3.3)	4/26/06 07:35 p	1.0	0.08224	ISOTH
							1.0	(2.9)		Sample	Sample	ALP116

Number of Results: 13

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:15:00 AM

Lot-Sample No.: J6B270158-5

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0514

COC No.:

Matrix: AIR

Ordered by Client Sample ID, Batch No.

Yerington Air Quality - Event #63

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: HX81V1AG			Report DB ID: 9HX81V10								
U-234	0.0230	ND	0.25	0.25	0.791	pCi/sample	80%	0.03	4/13/06 06:59 p	1.0	0.0624	E908.0
						0.24	1.0	0.19		Sample	Sample	ALP5
U-235	0.115	ND	0.23	0.23	0.312	pCi/sample	80%	0.37	4/13/06 06:59 p	1.0	0.0624	E908.0
							1.0	0.99		Sample	Sample	ALP5
U-238	0.115	ND	0.42	0.43	1.07	pCi/sample	80%	0.11	4/13/06 06:59 p	1.0	0.0624	E908.0
						0.379	1.0	0.54		Sample	Sample	ALP5
Ratio U-234/238 = 0.2												
Batch: 6060337	Work Order: HX81V1AE			Report DB ID: 9HX81V10								
ALPHA	9.09	=	4.1	4.5	4.93	pCi/sample	100%	(1.8)	4/6/06 08:46 p	1.0	0.02086	E900.0
						1.98	20.0	(4.)		Sample	Sample	GPC10B
Batch: 6060339	Work Order: HX81V1AF			Report DB ID: 9HX81V10								
BETA	16.4	=	3.5	4.1	5.47	pCi/sample	100%	(3.)	4/5/06 09:14 a	1.0	0.08311	E900.0
						2.63	5.0	(7.9)		Sample	Sample	GPC32B
Batch: 6060342	Work Order: HX81V1AC			Report DB ID: 9HX81V10								
RA-226	0.141	ND	0.27	0.27	0.489	pCi/sample	108%	0.29	4/10/06 02:50 p	0.833	0.25149	E903.1
						0.205	1.0	(1.)		Sample	Sample	ASC5SA
Batch: 6060344	Work Order: HX81V1AD			Report DB ID: 9HX81V10								
RA-228	1.27	ND	0.91	0.94	1.95	pCi/sample	97%	0.65	4/12/06 06:42 a	1.0	0.25149	E904.0
						0.877	3.1	(2.7)		Sample	Sample	GPC1C
Batch: 6110472	Work Order: HX81V3AA			Report DB ID: 9HX81V30								

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:15:00 AM

Lot-Sample No.: J6B270158-5

Report No. : 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0514

COC No. :

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
TH-228	0.248	ND	0.33	0.33	0.576	pCi/sample	92%	0.43	4/22/06 06:10 p	1.0	0.08363	ISOTH
						0.204	1.0	(1.5)		Sample	Sample	ALP116
TH-230	0.829	=	0.45	0.46	0.343	pCi/sample	92%	(2.4)	4/22/06 06:10 p	1.0	0.08363	ISOTH
						0.094	1.0	(3.6)		Sample	Sample	ALP116
TH-232	0.171	ND	0.20	0.20	0.155	pCi/sample	92%	(1.1)	4/22/06 06:10 p	1.0	0.08363	ISOTH
							1.0	(1.7)		Sample	Sample	ALP116

Number of Results: 10

Comments:

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:40:00 AM

Lot-Sample No.: J6B270158-6

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0515

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX81W1AG Report DB ID: 9HX81W10												
U-234	0.00000	ND	0.0000	0.29	0.323	pCi/sample	83%	0.	4/13/06 07:00 p	1.0	0.06252	E908.0
							1.0	0.		Sample	Sample	ALP7
U-235	0.00000	ND	0.0000	0.29	0.323	pCi/sample	83%	0.	4/13/06 07:00 p	1.0	0.06252	E908.0
							1.0	0.		Sample	Sample	ALP7
U-238	0.0953	ND	0.24	0.24	0.571	pCi/sample	83%	0.17	4/13/06 07:00 p	1.0	0.06252	E908.0
						0.124	1.0	0.78		Sample	Sample	ALP7
Batch: 6060336 Work Order: HX81W1AA Report DB ID: 9HX81W10												
TH-228	-0.0222	ND	0.044	0.044	0.266	pCi/sample	98%	-0.08	4/12/06 08:39 p	1.0	0.08346	ISOTH
						0.0729	1.0	-1.		Sample	Sample	ALP176
TH-230	0.144	ND	0.17	0.17	0.247	pCi/sample	98%	0.58	4/12/06 08:39 p	1.0	0.08346	ISOTH
						0.0679	1.0	(1.7)		Sample	Sample	ALP176
TH-232	-0.0206	ND	0.041	0.041	0.247	pCi/sample	98%	-0.08	4/12/06 08:39 p	1.0	0.08346	ISOTH
						0.0679	1.0	-1.		Sample	Sample	ALP176
Batch: 6060337 Work Order: HX81W1AE Report DB ID: 9HX81W10												
ALPHA	6.53	=	4.0	4.2	5.94	pCi/sample	100%	(1.1)	4/6/06 08:46 p	1.0	0.02095	E900.0
						2.47	20.0	(3.1)		Sample	Sample	GPC10C
Batch: 6060339 Work Order: HX81W1AF Report DB ID: 9HX81W10												
BETA	13.8	=	3.2	4.0	5.06	pCi/sample	100%	(2.7)	4/5/06 09:14 a	1.0	0.08342	E900.0
						2.42	5.0	(6.9)		Sample	Sample	GPC32C
Batch: 6060342 Work Order: HX81W1AC Report DB ID: 9HX81W10												

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 8:40:00 AM

Lot-Sample No.: J6B270158-6

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0515

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	2.36	=	0.60	0.78	0.71	pCi/sample	93%	(3.3)	4/10/06 02:51 p	0.833	0.25101	E903.1
						0.324	1.0	(6.)		Sample	Sample	ASC8HB
Batch: 6060344			Work Order: HX81W1AD			Report DB ID: 9HX81W10						
RA-228	18.9	=	2.2	3.1	2.54	pCi/sample	82%	(7.4)	4/12/06 06:42 a	1.0	0.25101	E904.0
						1.16	3.1	(12.1)		Sample	Sample	GPC1D

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:10:00 AM

Lot-Sample No.: J6B270158-7

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0516

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX81X1AG Report DB ID: 9HX81X10												
U-234	0.00000	ND	0.0000	0.24	0.268	pCi/sample	93%	0.	4/13/06 07:00 p	1.0	0.06237	E908.0
							1.0	0.		Sample	Sample	ALP8
U-235	0.00000	ND	0.0000	0.24	0.268	pCi/sample	93%	0.	4/13/06 07:00 p	1.0	0.06237	E908.0
							1.0	0.		Sample	Sample	ALP8
U-238	-0.0198	ND	0.040	0.040	0.474	pCi/sample	93%	-0.04	4/13/06 07:00 p	1.0	0.06237	E908.0
						0.103	1.0	-0.99		Sample	Sample	ALP8
Batch: 6060336 Work Order: HX81X1AA Report DB ID: 9HX81X10												
TH-228	0.00000	ND	0.0000	0.13	0.147	pCi/sample	99%	0.	4/12/06 08:39 p	1.0	0.08341	ISOTH
							1.0	0.		Sample	Sample	ALP177
TH-230	0.101	ND	0.14	0.14	0.137	pCi/sample	99%	0.74	4/12/06 08:39 p	1.0	0.08341	ISOTH
							1.0	(1.4)		Sample	Sample	ALP177
TH-232	0.00000	ND	0.0000	0.12	0.137	pCi/sample	99%	0.	4/12/06 08:39 p	1.0	0.08341	ISOTH
							1.0	0.		Sample	Sample	ALP177
Batch: 6060337 Work Order: HX81X1AE Report DB ID: 9HX81X10												
ALPHA	2.92	ND	3.2	3.3	5.96	pCi/sample	100%	0.49	4/5/06 08:46 p	1.0	0.02083	E900.0
						2.51	20.0	(1.8)		Sample	Sample	GPC10D
Batch: 6060339 Work Order: HX81X1AF Report DB ID: 9HX81X10												
BETA	13.3	=	3.5	4.0	5.92	pCi/sample	100%	(2.2)	4/5/06 09:14 a	1.0	0.08372	E900.0
						2.85	5.0	(6.7)		Sample	Sample	GPC32D
Batch: 6060342 Work Order: HX81X1AC Report DB ID: 9HX81X10												

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc|Mda or Total Uncert or not identified by gamma scan software.

FORM I SAMPLE RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:10:00 AM

Lot-Sample No.: J6B270158-7

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0516

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.1180	ND	0.27	0.27	0.574	pCi/sample	102%	-0.21	4/10/06 02:50 p	0.833	0.25045	E903.1
						0.249	1.0	-0.89		Sample	Sample	ASC9RC
Batch: 6060344			Work Order: HX81X1AD			Report DB ID: 9HX81X10						
RA-228	1.84	=	0.87	0.92	1.65	pCi/sample	91%	(1.1)	4/12/06 06:42 a	1.0	0.25045	E904.0
						0.696	3.1	(4.)		Sample	Sample	GPC2A

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:15:00 AM

Lot-Sample No.: J6B270158-8

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0517

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317 Work Order: HX8111AG Report DB ID: 9HX81110												
U-234	-0.0427	ND	0.060	0.061	0.603	pCi/sample	92%	-0.07	4/13/06 07:01 p	1.0	0.06237	E908.0
						0.157	1.0	-(1.4)		Sample	Sample	ALP9
U-235	-0.0213	ND	0.043	0.043	0.511	pCi/sample	92%	-0.04	4/13/06 07:01 p	1.0	0.06237	E908.0
						0.111	1.0	-0.99		Sample	Sample	ALP9
U-238	-0.0427	ND	0.060	0.061	0.603	pCi/sample	92%	-0.07	4/13/06 07:01 p	1.0	0.06237	E908.0
						0.157	1.0	-(1.4)		Sample	Sample	ALP9
Ratio U-234/238 = 1.0												
Batch: 6060336 Work Order: HX8111AA Report DB ID: 9HX81110												
TH-228	-0.0208	ND	0.042	0.042	0.25	pCi/sample	95%	-0.08	4/12/06 08:39 p	1.0	0.08375	ISOTH
						0.0686	1.0	-1.		Sample	Sample	ALP178
TH-230	0.116	ND	0.13	0.14	0.105	pCi/sample	95%	(1.1)	4/12/06 08:39 p	1.0	0.08375	ISOTH
							1.0	(1.7)		Sample	Sample	ALP178
TH-232	0.0194	ND	0.087	0.087	0.233	pCi/sample	95%	0.08	4/12/06 08:39 p	1.0	0.08375	ISOTH
						0.0638	1.0	0.45		Sample	Sample	ALP178
Batch: 6060337 Work Order: HX8111AE Report DB ID: 9HX81110												
ALPHA	0.00995	ND	2.1	2.1	5.27	pCi/sample	100%	0.	4/6/06 08:46 p	1.0	0.02082	E900.0
						2.13	20.0	0.01		Sample	Sample	GPC10E
Batch: 6060339 Work Order: HX8111AF Report DB ID: 9HX81110												
BETA	1.51	ND	2.6	2.6	5.3	pCi/sample	100%	0.29	4/5/06 10:15 a	1.0	0.08405	E900.0
						2.53	5.0	(1.2)		Sample	Sample	GPC26C
Batch: 6060342 Work Order: HX8111AC Report DB ID: 9HX81110												

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample = ERPIMS - Equal To, Analyte Detected

V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

Date: 28-Apr-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 31025

Collection Date: 2/5/2006 6:15:00 AM

Lot-Sample No.: J6B270158-8

Report No.: 32013

Received Date: 2/27/2006 8:00:00 AM

Client Sample ID: P 0517

COC No.:

Matrix: AIR

Yerington Air Quality - Event #63

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.223	ND	0.19	0.20	0.277	pCi/sample	106%	0.81	4/10/06 02:46 p	0.833	0.24931	E903.1
						0.108	1.0	(2.3)		Sample	Sample	ASCBMA
Batch: 6060344			Work Order: HX8111AD			Report DB ID: 9HX81110						
RA-228	1.60	ND	0.89	0.92	1.77	pCi/sample	94%	0.9	4/12/06 06:42 a	1.0	0.24931	E904.0
						0.766	3.1	(3.5)		Sample	Sample	GPC2B

Number of Results: 10

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-317

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: H0EHT1AA				Report DB ID: H0EHT1AB							
U-234	0.00000	ND	0.0000	0.016	0.0183	pCi/sample	98%	0.	4/13/06 07:02 p	1.0	1.0	E908.0
						1.0		0.		Sample	Sample	ALP87
U-235	-0.00269	ND	0.0038	0.0038	0.038	pCi/sample	98%	-0.07	4/13/06 07:02 p	1.0	1.0	E908.0
					0.0099	1.0		-(1.4)		Sample	Sample	ALP87
U-238	0.00000	ND	0.0000	0.016	0.0183	pCi/sample	98%	0.	4/13/06 07:02 p	1.0	1.0	E908.0
						1.0		0.		Sample	Sample	ALP87

Number of Results: 3

Comments:

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland
Lot-Sample No.: J6C010000-336

SDG: 31025
Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060336	Work Order: H0EP81AA		Report DB ID: H0EP81AB									
TH-228	0.00399	ND	0.013	0.013	0.0294	pCi/sample	93%	0.14	4/13/06 10:42 a	1.0	1.0	ISOTH
					0.00928	1.0		0.63		Sample	Sample	ALP114
TH-230	0.00928	ND	0.013	0.013	0.0223	pCi/sample	93%	0.42	4/13/06 10:42 a	1.0	1.0	ISOTH
					0.0061	1.0		(1.4)		Sample	Sample	ALP114
TH-232	0.00000	ND	0.0000	0.0091	0.0101	pCi/sample	93%	0.	4/13/06 10:42 a	1.0	1.0	ISOTH
						1.0		0.		Sample	Sample	ALP114

Number of Results: 3

Comments:

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-337

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060337	Work Order: H0EQF1AA				Report DB ID: H0EQF1AB							
ALPHA	-0.0278	ND	0.034	0.035	0.113	pCi/sample	100%	-0.25	4/7/06 11:31 a	1.0	1.0	E900.0
					0.0462	20.0		-(1.6)		Sample	Sample	GPC10C

Number of Results: 1

Comments:

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-339

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060339	Work Order: H0EQR1AA		Report DB ID: H0EQR1AB									
BETA	0.221	ND	0.21	0.22	0.423	pCi/sample	100%	0.52	4/5/06 11:54 a	1.0	1.0	E900.0
					0.202	5.0		(2.)		Sample	Sample	GPC32C

Number of Results: 1

Comments:

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-342

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060342	Work Order: H0EQ51AA											
RA-226	-0.0446	ND	0.058	0.058	0.132	pCi/sample	112%	-0.34	4/10/06 03:19 p	1.0	1.0	E903.1
					0.0574	1.0		-(1.5)		Sample	Sample	ASCPMA

Number of Results: 1

Comments:

FORM II
BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-344

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6060344	Work Order: H0ERC1AA											
RA-228	0.0967	ND	0.19	0.19	0.431	pCi/sample	99%	0.22	4/12/06 06:43 a	1.0	1.0	E904.0
					0.188	3.1		(1.)		Sample	Sample	GPC4B

Number of Results: 1

Comments:

FORM II BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6D200000-472

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6110472	Work Order: H3PLC1AA		Report DB ID: H3PLC1AB									
TH-228	0.00000	ND	0.0000	0.0097	0.0107	pCi/sample	94%	0.	4/22/06 06:11 p	1.0	1.0	ISOTH
						1.0		0.		Sample	Sample	ALP117
TH-230	0.0175	=	0.016	0.017	0.0175	pCi/sample	94%	(1.)	4/22/06 06:11 p	1.0	1.0	ISOTH
					0.0038	1.0		(2.1)		Sample	Sample	ALP117
TH-232	0.00000	ND	0.0000	0.0089	0.0099	pCi/sample	94%	0.	4/22/06 06:11 p	1.0	1.0	ISOTH
						1.0		0.		Sample	Sample	ALP117

Number of Results: 3

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchBlank = ERPIMS - Equal To, Analyte Detected
 V4.15.0 A97 ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II BLANK RESULTS

Date: 28-Apr-06

Lab Name: STL Richland
Lot-Sample No.: J6D250000-380

SDG: 31025
Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6115380	Work Order: H31531AA				Report DB ID: H31531AB							
TH-228	0.00373	ND	0.0075	0.0075	0.0101	pCi/sample	122%	0.37	4/26/06 07:35 p	1.0	1.0	ISOTH
						1.0		1.		Sample	Sample	ALP117
TH-230	0.00617	ND	0.0098	0.0098	0.0164	pCi/sample	122%	0.38	4/26/06 07:35 p	1.0	1.0	ISOTH
					0.00356	1.0		(1.3)		Sample	Sample	ALP117
TH-232	0.00000	ND	0.0000	0.0084	0.00928	pCi/sample	122%	0.	4/26/06 07:35 p	1.0	1.0	ISOTH
						1.0		0.		Sample	Sample	ALP117

Number of Results: 3

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchBlank ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.
V4.15.0 A97

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland
Lot-Sample No.: J6C010000-317SDG: 31025
Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6060317	Work Order: H0EHT1AC			Report DB ID: H0EHT1CS									
U-234	1.10	=	0.20	0.32	0.0576	pCi/sample	93.78%	1.00	0.0058	110%	4/13/06 07:02 p	1.0	E908.0
										0.1		Sample	ALP85
U-238	0.857	=	0.18	0.26	0.0375	pCi/sample	93.78%	1.05	0.0061	82%	4/13/06 07:02 p	1.0	E908.0
										-0.2		Sample	ALP85

Number of Results: 2

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-336

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Analy Method, Primary Detector
Batch: 6060336	Work Order: H0EP81AC			Report DB ID: H0EP81CS									
TH-230	1.90	=	0.19	0.33	0.0287	pCi/sample	92.18%	1.80	0.054	106%	4/13/06 10:42 a	1.0	ISOTH
Rec Limits:								70.	130.	0.1		Sample	ALP116

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-337

Report No.: 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Analy Method, Primary Detector
Batch: 6060337	Work Order: H0EQF1AC			Report DB ID: H0EQF1CS									
ALPHA	2.33	=	0.26	0.54	0.106	pCi/sample	100.00%	2.29	0.072	102%	4/7/06 11:31 a	1.0	E900.0
Rec Limits:										0.0		Sample	GPC10D

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-339

Report No.: 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6060339	Work Order: H0EQR2AC												
BETA	3.56	=	0.37	0.62	0.426	pCi/sample	100.00%	4.53	0.036	79%	4/6/06 12:21 p	1.0	E900.0
Rec Limits:										-0.2		Sample	GPC28B

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland
Lot-Sample No.: J6C010000-342SDG: 31025
Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC/MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6060342	Work Order: H0EQ51AC			Report DB ID: H0EQ51CS									
RA-226	1.40	=	0.20	0.37	0.138	pCi/sample	100.35%	1.37	0.35	103%	4/10/06 03:44 p	1.0	E903.1
Rec Limits:								70.	130.	0.0		Sample	ASCQMC

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6C010000-344

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector	
Batch: 6060344	Work Order: H0ERC1AC			Report DB ID: H0ERC1CS										
RA-228	3.88	=	0.48	0.66	0.442	pCi/sample	86.06%	5.08	0.13	76%	4/12/06 07:54 a	1.0	E904.0	
Rec Limits:								70.	130.	-0.2	Sample			GPC4C

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6D200000-472

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Analy Method, Primary Detector
Batch: 6110472	Work Order: H3PLC1AC			Report DB ID: H3PLC1CS									
TH-230	1.67	=	0.14	0.28	0.0209	pCi/sample	91.69%	1.83	0.055	92%	4/22/06 06:11 p	1.0	ISOTH
						Rec Limits:	70.	130.		-0.1		Sample	ALP118

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 28-Apr-06

Lab Name: STL Richland

SDG: 31025

Lot-Sample No.: J6D250000-380

Report No. : 32013

Matrix: AIR

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6115380	Work Order: H31531AC		Report DB ID: H31531CS										
TH-230	1.99	=	0.15	0.36	0.00756	pCi/sample	117.44%	1.84	0.061	108%	4/26/06 07:35 p	1.0	ISOTH
Rec Limits:								70.	130.	0.1		Sample	ALP118

Number of Results: 1

Comments:

ALPHA

SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060337; RALPHA-A Alpha by GPC-Am
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

First Level Review

Pam Anderson

Date

4-11-06

Data Review Checklist
RADIOCHEMISTRY
Second Level ReviewQC Batch Number: 10060337

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

_____Second Level Review: Shirley A. AdamsDate: 4-11-06

STL RICHLAND

4/4/2006 5:20:19 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060337

FILTER

pCi/sampI

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

All Tests: 6060317 7YSR, 6060336 9NS1, 6060337 BAS7, 6060339 BDS8, 6060342 BXTX, 6060344 BXTF,

Prep Tech: HansenM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AE J6B270158-1-SAMP 02/05/2006 06:00	0.833sa	12.64g.in								
<div> <div>0.833 / 50356 / 12.64 = 0.0209</div> <div>Volume 1.5</div> <div>0.4</div> <div>150</div> <div>100</div> <div>1918</div> <div>4/6/0602</div> </div>										
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
2 HX81Q-1-AE J6B270158-2-SAMP 02/05/2006 06:35	0.833sa	12.54g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
3 HX81R-1-AE J6B270158-3-SAMP 02/05/2006 07:15	0.833sa	12.55g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
4 HX81T-1-AE J6B270158-4-SAMP 02/05/2006 07:45	0.833sa	12.53g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
5 HX81V-1-AE J6B270158-5-SAMP 02/05/2006 08:15	0.833sa	12.55g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
6 HX81W-1-AE J6B270158-6-SAMP 02/05/2006 08:40	0.833sa	12.59g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
7 HX81X-1-AE J6B270158-7-SAMP 02/05/2006 06:10	0.833sa	12.53g.in								
			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:

984

STL RICHLAND

4/4/2006 5:20:20 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech:








Batch: 6060337 FILTER
SEQ Batch, Test: None

pCi/sampl

PM, Quote: EJ, 63174

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 HX811-1-AE J6B270158-8-SAMP 02/05/2006 06:15	0.833sa	12.54g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
9 HX812-1-AE J6B270158-9-SAMP 02/05/2006 06:05	0.833sa	12.61g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
10 HX813-1-AE J6B270158-10-SAMP 02/05/2006 06:40	0.833sa	12.51g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
11 HX814-1-AE J6B270158-11-SAMP 02/05/2006 07:20	0.833sa	12.54g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
12 HX815-1-AE J6B270158-12-SAMP 02/05/2006 07:50	0.833sa	12.59g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
13 HX816-1-AE J6B270158-13-SAMP 02/05/2006 08:20	0.833sa	12.67g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
14 HX817-1-AE J6B270158-14-SAMP 02/05/2006 08:45	0.833sa	12.62g,in								
										
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

965

4/4/2006 5:20:20 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060337 FILTER

pCi/sampl

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15HX818-1-AE J6B270158-15-SAMP 02/05/2006 06:45	0.833sa	12.54g,in		1.5	0.8	150		10b	1246	4/7/06 R
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
16H0EQF-1-AA-B J6C010000-337-BLK 02/05/2006 06:00		1.00sa,in			0.1			10c		
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
17H0EQF-1-AC-C J6C010000-337-LCS 02/05/2006 06:00		1.00sa,in	ASC0348 03/30/06,pd 02/09/06,r		0.1			10d		
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

Comments:

1% collodion added m4 4-4-06

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81N1AE-SAMP Constituent List:

ALPHA	RDL:20	pCi/sam	LCL:	UCL:	RPD:
H0EQF1AA-BLK:					
ALPHA	RDL:20	pCi/sam	LCL:	UCL:	RPD:
H0EQF1AC-LCS:					

HX81N1AE-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQF1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQF1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

4/11/2006 10:56:57 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/11/2005, 4/16/2006, Batch: '6060337', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060337				
AC	CalcC	HansenM	3/20/2006 4:07:32 PM	
SC		wagarr	IsBatched 3/1/2006 4:16:24 PM	ICOC_RADCALC v4.8.18
SC		HansenM	InPrep2 3/20/2006 4:07:32 PM	RICH-RC-5016 REVISION 5
SC		ScottM	InPrep2 3/31/2006 7:28:36 AM	RICH-RC-5014 REVISION 6
SC		HansenM	Prep2C 4/4/2006 5:02:55 PM	RICH-RC-5014 REVISION 6
SC		DAWKINSO	InCnt1 4/4/2006 5:34:23 PM	RICH-RD-0003 REVISION 4
SC		StringerR	CalcC 4/7/2006 1:00:14 PM	RICH-RD-0003 REVISION 4
AC		ScottM	3/31/2006 7:28:36	
AC		ScottM	4/4/2006 11:11:18	
AC		HansenM	4/4/2006 5:02:55 PM	
AC		DAWKINSO	4/4/2006 5:34:23 PM	
AC		StringerR	4/7/2006 1:00:14 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/11/2006 10:56:57 AM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert msa	Sample Date Units	Expected Yield	Volumes
31025	9HX81110		J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.9486E+03	1.059E+00	1.059E+00 5.274E+00	PCI/SA	1.0	1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00 5.298E+00	PCI/SA	1.0	1.0E+0 3.405E-2
31025	9HX81210		J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.0284E+01	2.198E+00	2.444E+00 5.179E+00	PCI/SA	1.0	1.0E+0 2.07E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00 5.209E+00	PCI/SA	1.0	1.0E+0 3.295E-2
31025	9HX81310		J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	4.1731E+00	1.552E+00	1.612E+00 4.862E+00	PCI/SA	1.0	1.0E+0 2.08E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00 5.341E+00	PCI/SA	1.0	1.0E+0 3.367E-2
31025	9HX81410		J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	6.8426E+00	1.932E+00	2.058E+00 5.45E+00	PCI/SA	1.0	1.0E+0 2.079E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00 4.713E+00	PCI/SA	1.0	1.0E+0 3.318E-2
31025	9HX81510		J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.6852E+01	2.628E+00	3.144E+00 5.103E+00	PCI/SA	1.0	1.0E+0 2.093E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00 5.06E+00	PCI/SA	1.0	1.0E+0 3.357E-2
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	9.3614E+00	2.111E+00	2.319E+00 4.967E+00	PCI/SA	1.0	1.0E+0 2.09E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00 5.184E+00	PCI/SA	1.0	1.0E+0 3.3E-2
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	1.0892E+01	2.232E+00	2.504E+00 5.119E+00	PCI/SA	1.0	1.0E+0 2.095E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00 5.291E+00	PCI/SA	1.0	1.0E+0 3.384E-2
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	-8.6245E-01	7.724E-01	7.776E-01 4.857E+00	PCI/SA	1.0	1.0E+0 2.085E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00 5.36E+00	PCI/SA	1.0	1.0E+0 3.447E-2
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.1099E+00	1.514E+00	1.53E+00 5.957E+00	PCI/SA	1.0	1.0E+0 2.091E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00 5.408E+00	PCI/SA	1.0	1.0E+0 3.278E-2
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.9199E+00	1.605E+00	1.632E+00 5.973E+00	PCI/SA	1.0	1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00 5.034E+00	PCI/SA	1.0	1.0E+0 3.315E-2
31025	9HX81R10		J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	4.8606E+00	1.709E+00	1.78E+00 5.252E+00	PCI/SA	1.0	1.0E+0 2.087E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00 5.53E+00	PCI/SA	1.0	1.0E+0 3.319E-2
31025	9HX81T10		J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.6327E+00	2.24E+00	2.454E+00 5.858E+00	PCI/SA	1.0	1.0E+0 2.052E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00 5.406E+00	PCI/SA	1.0	1.0E+0 3.204E-2
31025	9HX81V10		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.0898E+00	2.055E+00	2.261E+00 4.93E+00	PCI/SA	1.0	1.0E+0 2.086E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.6437E+01	1.736E+00	2.071E+00 5.472E+00	PCI/SA	1.0	1.0E+0 3.311E-2
31025	9HX81W10		J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	6.5328E+00	1.979E+00	2.091E+00 5.942E+00	PCI/SA	1.0	1.0E+0 2.095E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00 5.064E+00	PCI/SA	1.0	1.0E+0 3.342E-2
31025	9HX81X10		J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	2.9152E+00	1.602E+00	1.63E+00 5.964E+00	PCI/SA	1.0	1.0E+0 2.083E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00 5.916E+00	PCI/SA	1.0	1.0E+0 3.372E-2
31025	H0EQF1AB		J6C010000337	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
ALPHA	BAS7	0 B	4/7/2006 11:31:06 AM	-2.781E-02	1.724E-02	1.747E-02 1.132E-01	PCI/SA	1.0	1.0E+0 1.0E+0
31025	H0EQF1CS		J6C010000337	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
ALPHA	BAS7	0 S	4/7/2006 11:31:06 AM	2.3295E+00	1.317E-01	2.681E-01 1.062E-01	PCI/SA	2.2905E+00 1.0	1.0E+0 1.0E+0

6060337, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0.
 **Diff RptDb | Qlms => .

Alpha Beta, Alpha by GPC-Am , Results
Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Alpha by GPC-Am			Richland Standard Gross Alpha/Beta Wo Blk Subt											
Calc	S7	AIR	HX81N1AE	ALPHA	2.11E+00	(1.53E+00)	U4	PCI/SA	R	2.48E+00	5.96E+00	CRDLE 100%		
Calc	S7	AIR	HX81Q1AE	ALPHA	2.92E+00	(1.63E+00)		PCI/SA	R	2.52E+00	5.97E+00	100%		
Calc	S7	AIR	HX81R1AE	ALPHA	4.86E+00	(1.78E+00)		PCI/SA	R	2.12E+00	5.25E+00	100%		
Calc	S7	AIR	HX81T1AE	ALPHA	9.63E+00	(2.45E+00)		PCI/SA	R	2.43E+00	5.86E+00	100%		
Calc	S7	AIR	HX81V1AE	ALPHA	9.09E+00	(2.26E+00)		PCI/SA	R	1.98E+00	4.93E+00	100%		
Calc	S7	AIR	HX81W1AE	ALPHA	6.53E+00	(2.09E+00)		PCI/SA	R	2.47E+00	5.94E+00	100%		
Calc	S7	AIR	HX81X1AE	ALPHA	2.92E+00	(1.63E+00)		PCI/SA	R	2.51E+00	5.96E+00	100%		
Calc	S7	AIR	HX8111AE	ALPHA	9.95E-03	(1.06E+00)	U4	PCI/SA	R	2.13E+00	5.27E+00	100%		
Calc	S7	AIR	HX8121AE	ALPHA	1.03E+01	(2.44E+00)		PCI/SA	R	2.09E+00	5.18E+00	100%		
Calc	S7	AIR	HX8131AE	ALPHA	4.17E+00	(1.61E+00)		PCI/SA	R	1.94E+00	4.86E+00	100%		
Calc	S7	AIR	HX8141AE	ALPHA	6.84E+00	(2.06E+00)		PCI/SA	R	2.22E+00	5.45E+00	100%		
Calc	S7	AIR	HX8151AE	ALPHA	1.69E+01	(3.14E+00)		PCI/SA	R	2.08E+00	5.10E+00	100%		
Calc	S7	AIR	HX8161AE	ALPHA	9.36E+00	(2.32E+00)		PCI/SA	R	1.98E+00	4.97E+00	100%		
Calc	S7	AIR	HX8171AE	ALPHA	1.09E+01	(2.50E+00)		PCI/SA	R	2.07E+00	5.12E+00	100%		
Calc	S7	AIR	HX8181AE	ALPHA	-8.62E-01	(7.78E-01)	U4	PCI/SA	R	1.94E+00	4.86E+00	100%		
Calc	S7	AIR	H0EQF1AA	ALPHA	-2.78E-02	(1.75E-02)	U4	PCI/SA	R	4.62E-02	1.13E-01	B	100%	
Calc	S7	AIR	H0EQF1AC	ALPHA	2.33E+00	(2.68E-01)		PCI/SA	R	4.33E-02	1.06E-01	S	100%	102%

P Anderson
4-10-06

Batch Nbr: 6060337

Alpha Beta, Alpha by GPC-Am , Calculated Results
Detailed Report

4/7/2006 12:59:05 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	S7	AIR	*STLE	GabWoBS	HX81N1AE	PCI/SA		02/05/06 06:00	04/06/06 18:03			1	1.00 Sa				
536403,P 0510					J6B270158-1 v4.8.21		AIR			00.4				0.020909 Sa	✓			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/06/06 19:18	ALPHA	14	25	GPC10C	1.5	N	N	3.8825E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	452			Y		(1.293E-02)	(0.000E+00)		8%			(0.000E+00)	47.825459		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/07/06	ALPHA	R	2.109854	U4	3.80236E-02	0.097937	0.097937	1.00 Sa	100%			5.957067					
				(1.529821)		(2.7287E-02)	(0.070794)	(0.070794)	(0.027097)				2.478764					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	S7	AIR	*STLE	GabWoBS	HX81Q1AE	PCI/SA		02/05/06 06:35	04/06/06 18:03			1	1.00 Sa				
536403,P 0511					J6B270158-2 v4.8.21		AIR			00.4				0.02082 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/06/06 19:18	ALPHA	18	29	GPC10D	1.5	N	N	4.1377E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	452			Y		(1.204E-02)	(0.000E+00)		8%			(0.000E+00)	48.031653		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/07/06	ALPHA	R	2.919918		5.58407E-02	0.134957	0.134957	1.00 Sa	100%			5.973422					
				(1.632445)		(3.0691E-02)	(0.07506)	(0.07506)	(0.027097)				2.515851					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
3	Calc	S7	AIR	*STLE	GabWoBS	HX81R1AE	PCI/SA		02/05/06 07:15	04/06/06 18:03			1	1.00 Sa				
536403,P 0512					J6B270158-3 v4.8.21		AIR			00.4				0.020869 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/06/06 19:18	ALPHA	19	18	GPC10E	1.5	N	N	3.8565E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	452			Y		(1.141E-02)	(0.000E+00)		8%			(0.000E+00)	47.917813		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/07/06	ALPHA	R	4.860569		8.68437E-02	0.225187	0.225187	1.00 Sa	100%			5.251738					
				(1.780323)		(3.0538E-02)	(0.081481)	(0.081481)	(0.027097)				2.12154					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	S7	AIR	*STLE	GabWoBS	HX81T1AE	PCI/SA		02/05/06 07:45	04/06/06 20:46			1	1.00 Sa				
536403,P 0513					J6B270158-4 v4.8.21		AIR			00.4				0.020519 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/06/06 22:01	ALPHA	34	24	GPC10A	1.5	N	N	3.9556E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	452			Y		(1.366E-02)	(0.000E+00)		8%			(0.000E+00)	48.734897		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																RecCnt:4		
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																RADCALC v4.8.21		
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																STL Richland		

Batch Nbr: 6060337														Alpha Beta, Alpha by GPC-Am , Calculated Results										4/7/2006 12:59:05 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/07/06	ALPHA	R	9.632666 (2.453699)		1.73569E-01 (4.0356E-02)	0.438793 (0.108951)	0.438793 (0.108951)	1.00 Sa (0.027097)	100%		5.857968 2.429099													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
5	Calc	S7	AIR	*STLE	GabWoBS	HX81V1AE	PCI/SA		02/05/06 08:15	04/06/06 20:46			1	1.00 Sa											
536403,P 0514					J6B270158-5 v4.8.21	AIR				00.4				0.020861 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/06/06 22:01	ALPHA	31	17	GPC10B	1.5	N	N	4.0160E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	452			Y		(1.348E-02)	(0.000E+00)		8%			(0.000E+00)	47.936944									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/07/06	ALPHA	R	9.089839 (2.261169)		1.69056E-01 (3.8223E-02)	0.420958 (0.101943)	0.420958 (0.101943)	1.00 Sa (0.027097)	100%		4.930435 1.980688													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
6	Calc	S7	AIR	*STLE	GabWoBS	HX81W1AE	PCI/SA		02/05/06 08:40	04/06/06 20:46			1	1.00 Sa											
536403,P 0515					J6B270158-6 v4.8.21	AIR				00.3				0.020952 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/06/06 22:01	ALPHA	26	25	GPC10C	1.5	N	N	3.8841E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	452			Y		(1.293E-02)	(0.000E+00)		8%			(0.000E+00)	47.728384									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/07/06	ALPHA	R	6.532807 (2.091364)		1.18024E-01 (3.5748E-02)	0.303862 (0.095729)	0.303862 (0.095729)	1.00 Sa (0.027097)	100%		5.942435 2.472675													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
7	Calc	S7	AIR	*STLE	GabWoBS	HX81X1AE	PCI/SA		02/05/06 06:10	04/06/06 20:46			1	1.00 Sa											
536403,P 0516					J6B270158-7 v4.8.21	AIR				00.2				0.020835 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/06/06 22:01	ALPHA	18	29	GPC10D	1.5	N	N	4.1414E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	452			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	47.996214									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/07/06	ALPHA	R	2.915156 (1.629783)		5.58407E-02 (3.0691E-02)	0.134837 (0.074992)	0.134837 (0.074992)	1.00 Sa (0.027097)	100%		5.96368 2.511747													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
8	Calc	S7	AIR	*STLE	GabWoBS	HX8111AE	PCI/SA		02/05/06 06:15	04/06/06 20:46			1	1.00 Sa											
536403,P 0517					J6B270158-8 v4.8.21	AIR				00.8				0.020816 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							

Page 2

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.21

STL Richland

() - (1s Uncertainties). Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 2

RecCnt:8

RADCALC v4.8.21

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060337															Alpha Beta, Alpha by GPC-Am , Calculated Results										4/7/2006 12:59:05 PM	
0	04/06/06 22:01	ALPHA	6	18	GPC10E 1.5	N	N	3.8498E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			150	452		Y		(1.139E-02)	(0.000E+00)		8%		(0.000E+00)	48.039311												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/07/06	ALPHA	R	0.009949	U4	1.76991E-04	0.00046	0.00046	1.00 Sa	100%			5.274278													
				(1.058725)		(1.8835E-02)	(0.048926)	(0.048926)	(0.027097)				2.130646													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
9	Calc	S7	AIR	*STLE	GabWoBS	HX8121AE	PCI/SA		02/05/06 06:05	04/07/06 08:42			1	1.00 Sa												
536403,000357					J6B270158-9 v4.8.21		AIR			00.7				0.020704 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/07/06 09:57	ALPHA	34	20	GPC10A 1.5	N	N	3.9492E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			150	500		Y		(1.364E-02)	(0.000E+00)		8%		(0.000E+00)	48.301002												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/07/06	ALPHA	R	10.284012		1.86667E-01	0.472672	0.472672	1.00 Sa	100%			5.178781													
				(2.444276)		(3.9889E-02)	(0.10908)	(0.10908)	(0.027097)				2.092961													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
10	Calc	S7	AIR	*STLE	GabWoBS	HX8131AE	PCI/SA		02/05/06 06:40	04/07/06 08:42			1	1.00 Sa												
536403,000358					J6B270158-10 v4.8.21		AIR			00.6				0.020804 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/07/06 09:57	ALPHA	17	18	GPC10B 1.5	N	N	4.0124E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			150	500		Y		(1.347E-02)	(0.000E+00)		8%		(0.000E+00)	48.067189												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/07/06	ALPHA	R	4.173116		7.73333E-02	0.192737	0.192737	1.00 Sa	100%			4.862264													
				(1.611591)		(2.8767E-02)	(0.07362)	(0.07362)	(0.027097)				1.944824													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
11	Calc	S7	AIR	*STLE	GabWoBS	HX8141AE	PCI/SA		02/05/06 07:20	04/07/06 08:42			1	1.00 Sa												
536403,000359					J6B270158-11 v4.8.21		AIR			00.3				0.02079 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/07/06 09:57	ALPHA	25	22	GPC10C 1.5	N	N	3.8841E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			150	500		Y		(1.293E-02)	(0.000E+00)		8%		(0.000E+00)	48.099623												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/07/06	ALPHA	R	6.842621		1.22667E-01	0.315816	0.315816	1.00 Sa	100%			5.450321													
				(2.057725)		(3.4628E-02)	(0.093259)	(0.093259)	(0.027097)				2.222581													
(J) - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																										
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration																										
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																										
Page 3													RecCnt:12		RADCALC v4.8.21											
													STL Richland													

Batch Nbr: 6060337				Alpha Beta, Alpha by GPC-Am , Calculated Results										4/7/2006 12:59:05 PM					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
12	Calc	S7	AIR	*STLE	GabWoBS	HX8151AE	PCI/SA		02/05/06 07:50	04/07/06 08:42		1		1.00 Sa					
536403,000360					J6B270158-12 v4.8.21		AIR		01.3					0.020933 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/07/06 09:57	ALPHA	55	22	GPC10D	1.5	N	N	4.1203E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.199E-02)	(0.000E+00)		8%			(0.000E+00)	47.771293			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BIKlC/MDC	StdDvMdc/LcC					
	04/07/06	ALPHA	R	16.851558		3.22667E-01	0.783117	0.783117	1.00 Sa	100%		5.102842							
				(3.143811)		(5.0323E-02)	(0.139144)	(0.139144)	(0.027097)			2.080882							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
13	Calc	S7	AIR	*STLE	GabWoBS	HX8161AE	PCI/SA		02/05/06 08:20	04/07/06 08:42		1		1.00 Sa					
536403,000361					J6B270158-13 v4.8.21		AIR		02.3					0.020898 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/07/06 09:57	ALPHA	30	17	GPC10E	1.5	N	N	3.8222E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.131E-02)	(0.000E+00)		8%			(0.000E+00)	47.852448			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BIKlC/MDC	StdDvMdc/LcC					
	04/07/06	ALPHA	R	9.361387		1.66000E-01	0.4343	0.4343	1.00 Sa	100%		4.966866							
				(2.318977)		(3.7434E-02)	(0.10471)	(0.10471)	(0.027096)			1.975181							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
14	Calc	S7	AIR	*STLE	GabWoBS	HX8171AE	PCI/SA		02/05/06 08:45	04/07/06 11:31		1		1.00 Sa					
536403,000362					J6B270158-14 v4.8.21		AIR		00.8					0.020955 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/07/06 12:46	ALPHA	36	20	GPC10A	1.5	N	N	3.9470E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.363E-02)	(0.000E+00)		8%			(0.000E+00)	47.721466			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BIKlC/MDC	StdDvMdc/LcC					
	04/07/06	ALPHA	R	10.892356		2.00000E-01	0.506712	0.506712	1.00 Sa	100%		5.119454							
				(2.503519)		(4.0988E-02)	(0.112842)	(0.112842)	(0.027097)			2.068984							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
15	Calc	S7	AIR	*STLE	GabWoBS	HX8181AE	PCI/SA		02/05/06 06:45	04/07/06 11:31		1		1.00 Sa					
536403,000363					J6B270158-15 v4.8.21		AIR		00.8					0.020846 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/07/06 12:46	ALPHA	3	18	GPC10B	1.5	N	N	4.0087E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.346E-02)	(0.000E+00)		8%			(0.000E+00)	47.970384			
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time																RecCnt:15		RADCALC v4.8.21	
																		STL Richland	

Batch Nbr: 6060337														Alpha Beta, Alpha by GPC-Am , Calculated Results										4/7/2006 12:59:06 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/07/06	ALPHA	R	-0.862452 (0.777569)	U4	-1.60000E-02 (1.4329E-02)	-0.039913 (0.035913)	-0.039913 (0.035913)	1.00 Sa (0.027097)	100%			4.856908 1.942681												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
16	Calc	S7	AIR	*STLE	GabWoBS	H0EQF1AA	PCI/SA	B	02/05/06 06:00	04/07/06 11:31			1	1.00 Sa											
0	INTRA-LAB BLANK				J6C010000-337		AIR			00.1				1.00 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/07/06 12:46	ALPHA	3	22	GPC10C	1.5	N	N	3.8874E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.295E-02)	(0.000E+00)		8%			(0.000E+00)	1.00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/07/06	ALPHA	R	-0.02781 (0.017469)	U4	-2.40000E-02 (1.4877E-02)	-0.061738 (0.038643)	-0.061738 (0.038643)	1.00 Sa (0.017321)	100%			0.113218 0.046169												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
17	Calc	S7	AIR	*STLE	GabWoBS	H0EQF1AC	PCI/SA	S	02/05/06 06:00	04/07/06 11:31			1	1.00 Sa											
0	INTRA-LAB CHECK				J6C010000-337		AIR			00.1		ASC0348		1.00 Sa											
												ASC0348 Aliq		1.00 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/07/06 12:46	ALPHA	328	22	GPC10D	1.5	N	N	4.1432E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	1.00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/07/06	ALPHA	R	2.329522 (0.268054)		2.14267E+00 (1.2110E-01)	5.171544 (0.528426)	5.171544 (0.528426)	1.00 Sa (0.017321)	100%	102%		0.106228 0.043319												
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									
Page 5														RecCnt:17		RADCALC v4.8.21									
																STL Richland									

ALPHA

STANDARDS AND TRACEABILITY

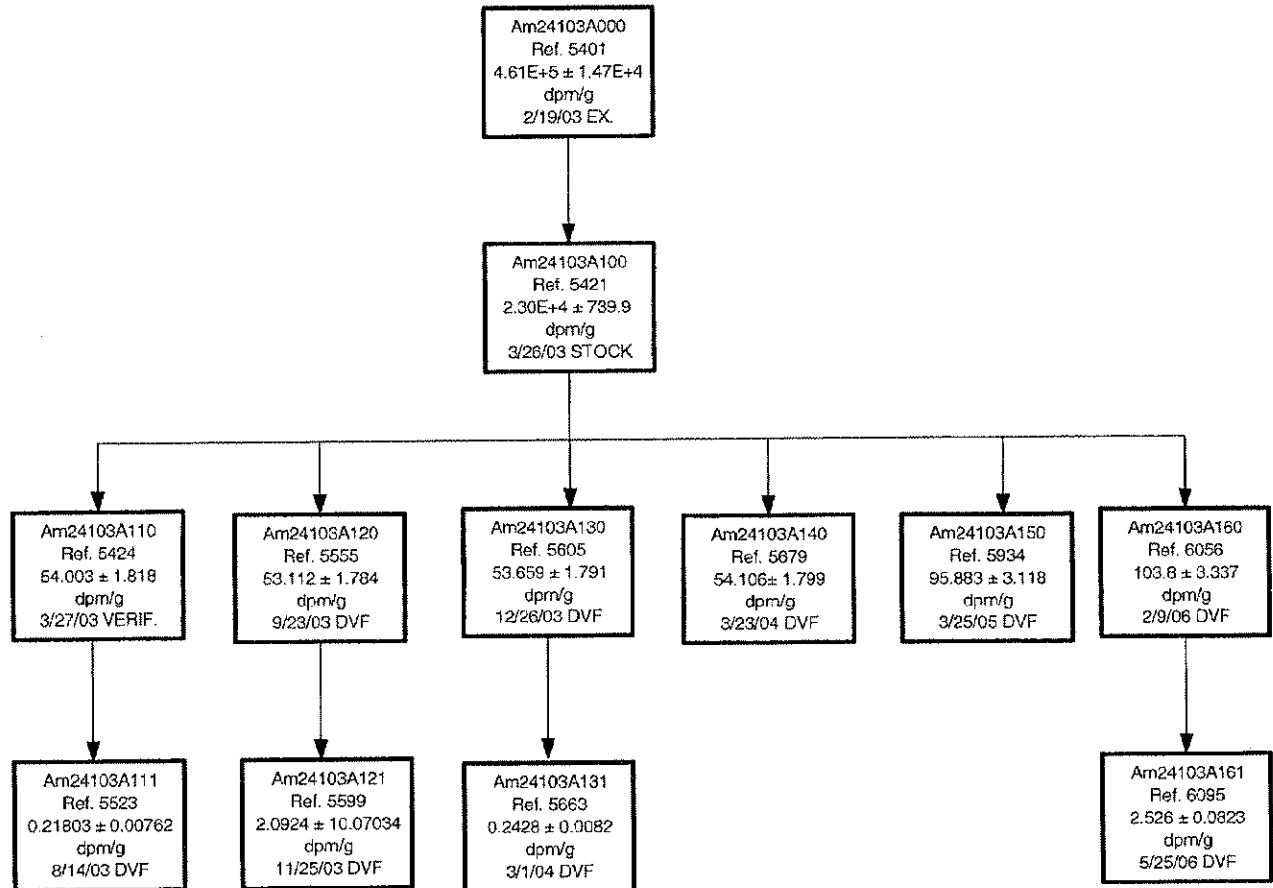
5/26/2006 12:07:13 PM

Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Like: ASC0348%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: AM24103A160 Ref: 2/9/2006 1.0380E+02 ± 3.253E+00 DPM/G						
ASC0348	AM-241	5.0851E+00 ± 1.600E-01 DPM	0.049 g	3/30/2006 3/30/2006	Armstrong	1.0378E+02 ± 3.252E+00 DPM/G
5.0851E+000 ± 5.085E+000 (1) 5.0851E+000 , 5.0851E+000						

AM24103A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>2/9/2006</u>
3) Source Identification Number / Ref. Number	<u>AM24103A100</u>	<u>5421</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2910E+04</u>	±	<u>7.365E-02</u>
5) Percent error of Source Activity	<u>3.215</u>	%	
6) Weight of Source Material used (g)	<u>1.0007</u>		
7) (% Error) of Weight of Source Material used	<u>0.4797</u>	%	
8) Diluent	<u>2 M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>220.87</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1358</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.0380E+02</u>	±	<u>3.377E+00</u>
12) Total Uncertainty	<u>3.253</u>	%	
13) Dilution Identification Number / Ref. Number	<u>AM24103A160</u>	<u>6056</u>	
14) Calibration Reference Date	<u>2/9/2006</u>		
15) Isotope Inventory File update by/date	<u>tda</u>	<u>2/9/2006</u>	
16) Reviewed by/date	<u></u>	<u></u>	
17) Location <u>qclab</u>	18) Exhausted	<u></u>	

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/25/2005</u>
3) Source Identification Number / Ref. Number	<u>AM24103A100</u>	<u>5421</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2940E+04</u>	±	<u>7.375E+02</u>
5) Percent error of Source Activity	<u>3.215</u>	%	
6) Weight of Source Material used (g)	<u>1.0186</u>		
7) (% Error) of Weight of Source Material used	<u>0.4712</u>	%	
8) Diluent	<u>2M HNO3-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>243.7</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1231</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>9.5883E+01</u>	±	<u>3.118E+00</u>
12) Total Uncertainty	<u>3.252</u>	%	
13) Dilution Identification Number / Ref. Number	<u>AM24103A150</u>	<u>5934</u>	
14) Calibration Reference Date	<u>3/25/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>3/25/2005</u>	
16) Reviewed by/date	<u>sew</u>	<u>3/28/2005</u>	
17) Location <u>QCLAB/STWT1132</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity } ^2 + \% \text{ error of Wt. Used } ^2 + \% \text{ error of Dilution Wt. } ^2)}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/23/2004</u>
3) Source Identification Number / Ref. Number	<u>AM24103A100</u>	<u>5421</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2977E+04</u>	±	<u>7.387E+02</u>
5) Percent error of Source Activity	<u>3.215</u>	%	
6) Weight of Source Material used (g)	<u>0.5744</u>		
7) (% Error) of Weight of Source Material used	<u>0.8357</u>	%	
8) Diluent	<u>2M HNO3-P0400085</u>		
9) Total Weight of the Dilution (g)	<u>243.93</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1230</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.4106E+01</u>	±	<u>1.799E+00</u>
12) Total Uncertainty	<u>3.324</u>	%	
13) Dilution Identification Number / Ref. Number	<u>AM24103A140</u>	<u>5679</u>	
14) Calibration Reference Date	<u>3/23/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>3/23/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>3/26/2004</u>	
17) Location <u>QCLAB/STWT0942</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>12/26/2003</u>
3) Source Identification Number / Ref. Number	<u>AM24103A100</u>	<u>5421</u>	
4) Source Activity (dpm \pm dpm/g)	<u>2.2986E+04</u>	\pm	<u>7.390E+02</u>
5) Percent error of Source Activity	<u>3.215</u>	%	
6) Weight of Source Material used (g)	<u>0.5414</u>		
7) (% Error) of Weight of Source Material used	<u>0.8866</u>	%	
8) Diluent	<u>2M HNO3-PC300705</u>		
9) Total Weight of the Dilution (g)	<u>231.92</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1294</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.3659E+01</u>	\pm	<u>1.791E+00</u>
12) Total Uncertainty	<u>3.338</u>	%	
13) Dilution Identification Number / Ref. Number	<u>AM24103A130</u>	<u>5605</u>	
14) Calibration Reference Date	<u>12/26/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>12/26/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>1/5/2004</u>	
17) Location <u>QCLAB/STWT0894</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/23/2003</u>
3) Source Identification Number / Ref. Number	<u>AM24103A100</u>	<u>5421</u>	
4) Source Activity (cpm \pm dpm/g)	<u>2.2996E+04</u>	\pm	<u>7.393E+02</u>
5) Percent error of Source Activity	<u>3.215</u>	%	
6) Weight of Source Material used (g)	<u>0.4983</u>		
7) (% Error) of Weight of Source Material used	<u>0.9633</u>	%	
8) Diluent	<u>2M HNO3-P0300455</u>		
9) Total Weight of the Dilution (g)	<u>215.75</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1390</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.3112E+01</u>	\pm	<u>1.784E+00</u>
12) Total Uncertainty	<u>3.359</u>	%	
13) Dilution Identification Number / Ref. Number	<u>AM24103A120</u>	<u>5555</u>	
14) Calibration Reference Date	<u>9/23/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>9/23/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/24/2003</u>	
17) Location <u>OCLAB/STWI0853</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/26/03</u>
3) Source Identification Number / Ref. Number		<u>AM24103A000</u>	<u>5401</u>
4) Source Activity (dpm \pm dpm/g)	<u>4.6049E+05</u>	\pm	<u>1.474E+04</u>
5) Percent error of Source Activity	<u>3.2</u>	%	
6) Weight of Source Material used (g)	<u>5.0651</u>		
7) (% Error) of Weight of Source Material used	<u>0.0948</u>	%	
8) Diluent	<u>2M HNO3-P0300164</u>		
9) Total Weight of the Dilution (g)	<u>101.35</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2960</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.3014E+04</u>	\pm	<u>7.399E+02</u>
12) Total Uncertainty	<u>3.215</u>	%	
13) Dilution Identification Number / Ref. Number		<u>AM24103A100</u>	<u>5421</u>
14) Calibration Reference Date	<u>3/26/03</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>3/26/03</u>	
16) Reviewed by/date	<u>SEW</u>	<u>3/26/03</u>	
17) Location	<u>QCLAB/STWT0754</u>	18) Exhausted	<u></u>

CALCULATIONS7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$ 10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$ 11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$ 12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope Am-241 2) Reference Number 5401

3) Half Life 433 yrs. 4) Storage Location Std. Lab

5) Source Identification Number Am24103A000

CALIBRATION DATA

6) Activity as Received Units 3.923E+04 dps

7) Overall Uncertainty Percent 3.2%

8) Reference Date / Time 19-FEB-03 12:00 EST (9:00AM)

9) Activity dpm/g 4.6056E+5 ± 1.4740E+4 dpm/g

10) Volume or Mass (ml/g) 5.11069 g

11) Calibrated by ANALYTICS

12) Certificate Solution Number 65621-310

SURVEY DATA

13) Date Received 2/24/03

14) Surveyed by W.G

15) Survey Reading (Beta/Gamma) cpm <100 outside of surface

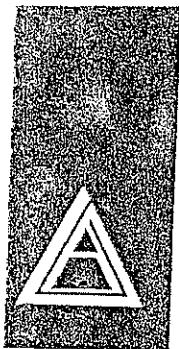
16) Survey Reading (Alpha) cpm <100 outside of surface

17) Activity Conversion $3.923E+04 \text{ dps} \times 60 \text{ s/m} / 5.011069 \text{ g} = 4.606E+05 \pm 1.474E+04 \text{ dpm/g}$

18) Remarks _____

19) Isotope File Updated by W.G 2/24/03

20) QC Approved SEW 3/11/03



ANALYTICS

#5401
Rec'd
2/24/304

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 - U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

65621-310

Am-241 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting.

Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry and liquid scintillation counting. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Am-241
ACTIVITY (dps):	3.923 E4
HALF-LIFE:	4.322 E2 years
CALIBRATION DATE:	February 19, 2003 12:00 EST
TOTAL UNCERTAINTY*:	3.2%
SYSTEMATIC:	2.2%
RANDOM:	1.0%

*99% confidence level.

5.11069 grams 1M HCl solution.

Impurities: γ -impurities <0.1%
 α -impurities <0.1%

P O NUMBER 1703541-000 OP, Item 1

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

M. Metz 2-20-03

ALPHA

CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAY-2006 11:37:20.80

QA Filename : \$DISK1:[QUAD10.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : Quad10A (Hex 1) alpha %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.500000 Upper Bound : 52.200001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 48.359322 Std Deviation : 1.281971

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:04	CHK		49.2000		
2-MAR-2006 06:04	CHK		49.1000		
3-MAR-2006 06:05	CHK		49.0000		
4-MAR-2006 06:22	CHK		49.2000		
5-MAR-2006 09:18	CHK		48.7000		
6-MAR-2006 05:06	CHK		49.5000		
7-MAR-2006 05:11	CHK		49.6000		
8-MAR-2006 05:44	CHK		49.0000		
9-MAR-2006 05:40	CHK		49.6000		
10-MAR-2006 05:46	CHK		1.3000	Be Ac	R
10-MAR-2006 06:30	CHK		48.8000		
11-MAR-2006 07:49	CHK		49.5000		
12-MAR-2006 07:33	CHK		49.2000		
13-MAR-2006 05:13	CHK		49.3000		
14-MAR-2006 04:59	CHK		49.3000		
15-MAR-2006 06:14	CHK		49.0000		
16-MAR-2006 06:18	CHK		49.2000		
17-MAR-2006 06:23	CHK		49.6000		
18-MAR-2006 07:00	CHK		49.4000		
19-MAR-2006 07:00	CHK		49.5000		
20-MAR-2006 05:03	CHK		49.5000		

21-MAR-2006 05:00	CHK	49.4000			
22-MAR-2006 05:44	CHK	49.2000			
23-MAR-2006 05:41	CHK	49.1000			
24-MAR-2006 05:07	CHK	49.5000			
25-MAR-2006 06:59	CHK	49.3000			
26-MAR-2006 07:20	CHK	49.9000			
27-MAR-2006 05:06	CHK	49.4000			
28-MAR-2006 06:06	CHK	49.2000			
29-MAR-2006 06:18	CHK	50.4000			
30-MAR-2006 05:08	CHK	49.4000			
31-MAR-2006 04:58	CHK	49.5000			
3-APR-2006 04:54	CHK	49.5000			
4-APR-2006 05:02	CHK	49.1000			
5-APR-2006 05:32	CHK	49.0000			
6-APR-2006 05:49	CHK	49.3000			
7-APR-2006 07:11	CHK	49.1000			
8-APR-2006 07:49	CHK	49.1000			

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
9-APR-2006 07:52	CHK		49.1000		
10-APR-2006 05:13	CHK		48.9000		
11-APR-2006 06:28	CHK		49.4000		
12-APR-2006 06:20	CHK		49.5000		

-- Multi-Test Full Report --

Description : Quad10B (Hex 2) alpha %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 37.799999 Upper Bound : 45.200001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 41.508381 Std Deviation : 1.231737

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 05:04	CHK		41.6000		

2-MAR-2006 06:04	CHK	41.8000			
3-MAR-2006 06:05	CHK	41.8000			
4-MAR-2006 06:22	CHK	41.7000			
5-MAR-2006 09:18	CHK	42.3000			
6-MAR-2006 05:06	CHK	41.8000			
7-MAR-2006 05:11	CHK	41.7000			
8-MAR-2006 05:44	CHK	41.6000			
9-MAR-2006 05:40	CHK	41.8000			
10-MAR-2006 05:46	CHK	1.1000	Be Ac		R
10-MAR-2006 06:30	CHK	41.4000			
11-MAR-2006 07:49	CHK	42.2000			
12-MAR-2006 07:33	CHK	42.2000			
13-MAR-2006 05:13	CHK	41.8000			
14-MAR-2006 04:59	CHK	41.4000			
15-MAR-2006 06:14	CHK	41.9000			
16-MAR-2006 06:18	CHK	41.9000			
17-MAR-2006 06:23	CHK	41.4000			
18-MAR-2006 07:00	CHK	41.7000			
19-MAR-2006 07:00	CHK	42.0000			
20-MAR-2006 05:03	CHK	41.8000			
21-MAR-2006 05:00	CHK	41.9000			
22-MAR-2006 05:44	CHK	41.5000			
23-MAR-2006 05:41	CHK	41.6000			
24-MAR-2006 05:07	CHK	41.8000			
25-MAR-2006 06:59	CHK	41.4000			
26-MAR-2006 07:20	CHK	41.8000			
27-MAR-2006 05:06	CHK	41.6000			
28-MAR-2006 06:06	CHK	41.9000			
29-MAR-2006 06:18	CHK	43.1000			
30-MAR-2006 05:08	CHK	41.8000			
31-MAR-2006 04:58	CHK	41.9000			
3-APR-2006 04:54	CHK	42.1000			
4-APR-2006 05:02	CHK	41.7000			

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
5-APR-2006 05:32	CHK	41.6000			
6-APR-2006 05:49	CHK	42.1000			
7-APR-2006 07:11	CHK	42.1000			
8-APR-2006 07:49	CHK	42.3000			
9-APR-2006 07:52	CHK	42.7000			
10-APR-2006 05:13	CHK	42.4000			

11-APR-2006 06:28	CHK	41.6000			
12-APR-2006 06:20	CHK	41.1000			

-- Multi-Test Full Report --

Description : Quad10C (Hex 3) alpha %Eff
 Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.900000 Upper Bound : 49.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 46.962921 Std Deviation : 0.670843

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:04	CHK	46.8000			
2-MAR-2006 06:04	CHK	47.0000			
3-MAR-2006 06:05	CHK	46.9000			
4-MAR-2006 06:22	CHK	46.5000			
5-MAR-2006 09:18	CHK	47.5000			
6-MAR-2006 05:06	CHK	46.7000			
7-MAR-2006 05:11	CHK	46.3000			
8-MAR-2006 05:44	CHK	47.3000			
9-MAR-2006 05:40	CHK	47.7000			
10-MAR-2006 05:46	CHK	1.2000	Be Ac		R
10-MAR-2006 06:30	CHK	47.2000			
11-MAR-2006 07:49	CHK	47.5000			
12-MAR-2006 07:33	CHK	47.6000			
13-MAR-2006 05:13	CHK	46.4000			
14-MAR-2006 04:59	CHK	46.6000			
15-MAR-2006 06:14	CHK	47.2000			
16-MAR-2006 06:18	CHK	47.9000			
17-MAR-2006 06:23	CHK	47.3000			
18-MAR-2006 07:00	CHK	46.8000			
19-MAR-2006 07:00	CHK	47.3000			
20-MAR-2006 05:03	CHK	47.4000			
21-MAR-2006 05:00	CHK	46.4000			
22-MAR-2006 05:44	CHK	46.9000			
23-MAR-2006 05:41	CHK	46.9000			

24-MAR-2006 05:07	CHK	47.1000			
25-MAR-2006 06:59	CHK	46.7000			
26-MAR-2006 07:20	CHK	47.0000			
27-MAR-2006 05:06	CHK	47.7000			
28-MAR-2006 06:06	CHK	46.1000			
29-MAR-2006 06:18	CHK	47.7000			

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

30-MAR-2006 05:08	CHK	46.6000			
31-MAR-2006 04:58	CHK	47.6000			
3-APR-2006 04:54	CHK	46.6000			
4-APR-2006 05:02	CHK	47.3000			
5-APR-2006 05:32	CHK	46.9000			
6-APR-2006 05:49	CHK	46.9000			
7-APR-2006 07:11	CHK	47.2000			
8-APR-2006 07:49	CHK	47.2000			
9-APR-2006 07:52	CHK	47.6000			
10-APR-2006 05:13	CHK	47.8000			
11-APR-2006 06:28	CHK	47.4000			
12-APR-2006 06:20	CHK	47.1000			

-- Multi-Test Full Report --

Description : Quad10D (Hex 4) alpha %Eff
 Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.299999 Upper Bound : 50.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 48.150002 Std Deviation : 0.600698

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:04	CHK	48.0000			
2-MAR-2006 06:04	CHK	48.4000			
3-MAR-2006 06:05	CHK	48.4000			
4-MAR-2006 06:22	CHK	47.9000			

5-MAR-2006 09:18	CHK	47.6000			
6-MAR-2006 05:06	CHK	48.0000			
7-MAR-2006 05:11	CHK	48.6000			
8-MAR-2006 05:44	CHK	48.5000			
9-MAR-2006 05:40	CHK	48.7000			
10-MAR-2006 05:46	CHK	1.2000	Be Ac		R
10-MAR-2006 06:30	CHK	48.3000			
11-MAR-2006 07:49	CHK	47.9000			
12-MAR-2006 07:33	CHK	48.4000			
13-MAR-2006 05:13	CHK	48.6000			
14-MAR-2006 04:59	CHK	48.5000			
15-MAR-2006 06:14	CHK	48.4000			
16-MAR-2006 06:18	CHK	48.2000			
17-MAR-2006 06:23	CHK	48.2000			
18-MAR-2006 07:00	CHK	48.1000			
19-MAR-2006 07:00	CHK	48.6000			
20-MAR-2006 05:03	CHK	47.9000			
21-MAR-2006 05:00	CHK	47.9000			
22-MAR-2006 05:44	CHK	48.4000			
23-MAR-2006 05:41	CHK	47.9000			
24-MAR-2006 05:07	CHK	48.0000			
25-MAR-2006 06:59	CHK	47.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

26-MAR-2006 07:20	CHK	48.6000			
27-MAR-2006 05:06	CHK	48.3000			
28-MAR-2006 06:06	CHK	48.7000			
29-MAR-2006 06:18	CHK	48.8000			
30-MAR-2006 05:08	CHK	48.1000			
31-MAR-2006 04:58	CHK	48.1000			
3-APR-2006 04:54	CHK	48.2000			
4-APR-2006 05:02	CHK	48.6000			
5-APR-2006 05:32	CHK	48.5000			
6-APR-2006 05:49	CHK	47.8000			
7-APR-2006 07:11	CHK	48.7000			
8-APR-2006 07:49	CHK	48.5000			
9-APR-2006 07:52	CHK	47.9000			
10-APR-2006 05:13	CHK	48.3000			
11-APR-2006 06:28	CHK	48.6000			
12-APR-2006 06:20	CHK	47.9000			

-- Multi-Test Full Report --

Description : Quad10E (Hex 5) alpha %Eff
 Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.799999 Upper Bound : 48.599998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 46.425556 Std Deviation : 0.531481

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:04	CHK		46.5000		
2-MAR-2006 06:04	CHK		46.4000		
3-MAR-2006 06:05	CHK		46.4000		
4-MAR-2006 06:22	CHK		46.5000		
5-MAR-2006 09:18	CHK		46.3000		
6-MAR-2006 05:06	CHK		46.4000		
7-MAR-2006 05:11	CHK		46.6000		
8-MAR-2006 05:44	CHK		46.6000		
9-MAR-2006 05:40	CHK		45.8000		
10-MAR-2006 05:46	CHK		1.1000	Be Ac	R
10-MAR-2006 06:30	CHK		46.1000		
11-MAR-2006 07:49	CHK		46.1000		
12-MAR-2006 07:33	CHK		46.6000		
13-MAR-2006 05:13	CHK		46.2000		
14-MAR-2006 04:59	CHK		46.6000		
15-MAR-2006 06:14	CHK		45.9000		
16-MAR-2006 06:18	CHK		47.1000		
17-MAR-2006 06:23	CHK		46.3000		
18-MAR-2006 07:00	CHK		46.4000		
19-MAR-2006 07:00	CHK		46.3000		
20-MAR-2006 05:03	CHK		46.0000		
21-MAR-2006 05:00	CHK		46.1000		

Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

22-MAR-2006 05:44	CHK		46.9000		
-------------------	-----	--	---------	--	--

23-MAR-2006 05:41	CHK	46.6000			
24-MAR-2006 05:07	CHK	46.0000			
25-MAR-2006 06:59	CHK	47.1000			
26-MAR-2006 07:20	CHK	46.3000			
27-MAR-2006 05:06	CHK	46.8000			
28-MAR-2006 06:06	CHK	46.9000			
29-MAR-2006 06:18	CHK	46.9000			
30-MAR-2006 05:08	CHK	46.0000			
31-MAR-2006 04:58	CHK	45.4000			
3-APR-2006 04:54	CHK	46.5000			
4-APR-2006 05:02	CHK	46.1000			
5-APR-2006 05:32	CHK	46.5000			
6-APR-2006 05:49	CHK	46.8000			
7-APR-2006 07:11	CHK	46.5000			
8-APR-2006 07:49	CHK	46.2000			
9-APR-2006 07:52	CHK	46.2000			
10-APR-2006 05:13	CHK	47.1000			
11-APR-2006 06:28	CHK	46.5000			
12-APR-2006 06:20	CHK	46.6000			

-- Multi-Test Full Report --

Description : Quad10F (Hex 6) alpha %Eff
 Parameter Units : Parameter Type : Gencric

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.700001 Upper Bound : 50.099998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JAN-2006 00:00 End Date : 1-MAR-2006 00:00

Mean : 48.417023 Std Deviation : 0.513860

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:04	CHK	48.9000			
2-MAR-2006 06:04	CHK	48.9000			
3-MAR-2006 06:05	CHK	48.3000			
4-MAR-2006 06:22	CHK	48.3000			
5-MAR-2006 09:18	CHK	48.3000			
6-MAR-2006 05:06	CHK	48.7000			
7-MAR-2006 05:11	CHK	48.4000			

8-MAR-2006 05:44	CHK	48.0000			
9-MAR-2006 05:40	CHK	48.5000			
10-MAR-2006 05:46	CHK	1.2000	Be Ac		R
10-MAR-2006 06:30	CHK	48.3000			
11-MAR-2006 07:49	CHK	48.5000			
12-MAR-2006 07:33	CHK	48.2000			
13-MAR-2006 05:13	CHK	48.4000			
14-MAR-2006 04:59	CHK	48.8000			
15-MAR-2006 06:14	CHK	48.2000			
16-MAR-2006 06:18	CHK	48.1000			
17-MAR-2006 06:23	CHK	48.6000			

Quality Assurance Multi-Test Full Report (continued)

Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

18-MAR-2006 07:00	CHK	48.3000			
19-MAR-2006 07:00	CHK	48.6000			
20-MAR-2006 05:03	CHK	49.0000			
21-MAR-2006 05:00	CHK	48.5000			
22-MAR-2006 05:44	CHK	48.1000			
23-MAR-2006 05:41	CHK	48.6000			
24-MAR-2006 05:07	CHK	48.5000			
25-MAR-2006 06:59	CHK	48.5000			
26-MAR-2006 07:20	CHK	48.6000			
27-MAR-2006 05:06	CHK	48.7000			
28-MAR-2006 06:06	CHK	48.1000			
29-MAR-2006 06:18	CHK	49.5000	In		
30-MAR-2006 05:08	CHK	48.4000			
31-MAR-2006 04:58	CHK	48.7000			
3-APR-2006 04:54	CHK	48.2000			
4-APR-2006 05:02	CHK	48.4000			
5-APR-2006 05:32	CHK	48.5000			
6-APR-2006 05:49	CHK	48.9000			
7-APR-2006 07:11	CHK	48.3000			
8-APR-2006 07:49	CHK	48.3000			
9-APR-2006 07:52	CHK	48.5000			
10-APR-2006 05:13	CHK	48.3000			
11-APR-2006 06:28	CHK	48.2000			
12-APR-2006 06:20	CHK	48.8000			

BETA

SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060339; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

✓

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

✓

4.2 Were analysis volumes entered correctly?

Yes No N/A

✓

4.3 Were Yields entered correctly?

Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

✓

5.2 Are all required forms filled out?

Yes No N/A

✓

5.3 Was the correct methodology used?

Yes No N/A

✓

5.4 Was transcription checked?

Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

✓

5.6 Are worksheet entries complete and correct?

Yes No N/A

✓

6.0 Comments on any No response:

See NCM. 10-67850

First Level Review

Pam Anderson

Date 4-10-06

SEVERN
TRENT

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

6060339

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

See NCM

Second Level Review:

Sheryl A. Adams

Date:

4-10-06

STL Richland
Richland Wa.








02/05/2006 06:00
02/05/2006 06:35
02/05/2006 07:15
02/05/2006 07:45
02/05/2006 08:15
02/05/2006 08:40
02/05/2006 08:10

02/05/2006 06:10

STL Richland
Richland Wa.

4/6/2006 10:44:18 AM		Sample Preparation/Analysis				Balance Id:1120373922				
536403, Brown and Caldwell		Brown &		BD Gross Beta PrpRC5016/5014				Pipet #:		
Caldwell				S8 Gross Beta by GPC using Sr/Y-90 curve						
Report Due: 03/31/2006				01 STANDARD TEST SET				Sep1 DT/Tm Tech:		
Batch: 6060339		FILTER		pCi/sample		PM, Quote: EJ , 63174		Sep2 DT/Tm Tech:		
SEQ Batch, Test: None								Prep Tech: HansenM		
Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AF J6B270158-1-SAMP 02/05/2006 06:00	0.833sa	503.56sa	50.04g.in	0.0828g ✓						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
2 HX81Q-1-AF J6B270158-2-SAMP 02/05/2006 06:35	0.833sa	501.73sa	50.08g.in	0.0831g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
3 HX81R-1-AF J6B270158-3-SAMP 02/05/2006 07:15	0.833sa	500.94sa	50.03g.in	0.0832g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
4 HX81T-1-AF J6B270158-4-SAMP 02/05/2006 07:45	0.833sa	508.67sa	50.10g.in	0.082g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
5 HX81V-1-AF J6B270158-5-SAMP 02/05/2006 08:15	0.833sa	501.14sa	50.00g.in	0.0831g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
6 HX81W-1-AF J6B270158-6-SAMP 02/05/2006 08:40	0.833sa	500.55sa	50.13g.in	0.0834g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
7 HX81X-1-AF J6B270158-7-SAMP 02/05/2006 08:10	0.833sa	500.96sa	50.35g.in	0.0837g						
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										

4/6/2006 10:44:18 AM		Sample Preparation/Analysis				Balance Id:1120373922			
536403, Brown and Caldwell		, Brown &		BD Gross Beta PrpRC5016/5014				Pipet #: _____	
Caldwell				S8 Gross Beta by GPC using Sr/Y-90 curve					
Report Due: 03/31/2006				01 STANDARD TEST SET				Sep1 DT/Tm Tech: _____	
Batch: 6060339		FILTER		pCi/sampI		PM, Quote: EJ , 63174		Sep2 DT/Tm Tech: _____	
SEQ Batch, Test: None								Prep Tech: HansenM	

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 HX811-1-AF	0.833sa	501.81sa	50.63g.in	0.084g						
J6B270158-8-SAMP										
										
02/05/2006 06:15 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
9 HX812-1-AF	0.833sa	507.36sa	50.52g.in	0.0829g						
J6B270158-9-SAMP										
										
02/05/2006 06:05 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
10 HX813-1-AF	0.833sa	500.90sa	50.31g.in	0.0837g						
J6B270158-10-SAMP										
										
02/05/2006 06:40 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
11 HX814-1-AF	0.833sa	502.44sa	50.17g.in	0.0832g						
J6B270158-11-SAMP										
										
02/05/2006 07:20 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
12 HX815-1-AF	0.833sa	501.00sa	50.26g.in	0.0836g						
J6B270158-12-SAMP										
										
02/05/2006 07:50 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
13 HX816-1-AF	0.833sa	505.04sa	50.32g.in	0.083g						
J6B270158-13-SAMP										
										
02/05/2006 08:20 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
14 HX817-1-AF	0.833sa	501.67sa	50.49g.in	0.0838g						
J6B270158-14-SAMP										
										
02/05/2006 08:45 AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

STL Richland	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2	Page 2
Richland Wa.	pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added	ISV - Insufficient Volume for Analysis
		WO Cnt: 14 ICOC v4.8.20

4/6/2006 10:44:19 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

BD Gross Beta PrpRC5016/5014

S8 Gross Beta by GPC using Sr/Y-90 curve

01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060339 FILTER

pCi/sampI

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15HX818-1-AF J6B270158-15-SAMP 02/05/2006 06:45	0.833sa	501.09sa	50.81g,in	0.0845g						
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
16H0EQR-1-AA-B J6C010000-339-BLK 02/05/2006 06:00			1.00sa,in	1.00sa						
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
17H0EQR-1-AC-C J6C010000-339-LCS 02/05/2006 06:00			1.00sa,in	1.00sa	BESB2757 03/30/06,pd 12/28/05,r					
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
18H0EQR-2-AC-C J6C010000-339-LCS 02/05/2006 06:00			1.5A	BESB 2757	0.2mg 152mL			286 1336 4/6/06		
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81N1AF-SAMP Constituent List:

BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:					
H0EQR1AA-BLK:										
BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:					
H0EQR1AC-LCS:										
Cs-137	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:	pCi/sam	LCL:70	UCL:130 RPD:20
Sr-90	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20					
H0EQR2AC-LCS:										

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 18

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.20

Clouseau Nonconformance Memo



NCM #: **10-07850**
 NCM Initiated By: Pam Anderson
 Date Opened: 04/10/2006
 Date Closed:

Classification: **Anomaly**
 Status: **GLREVIEW**
 Production Area: Environmental - Sep
 Tests: Beta by GPC-Sr/Y
 Lot #'s (Sample #'s): J6B270158
 (1,10,11,12,13,14,15,2,3,4,5,
 6,7,8,9),
 QC Batches: 6060339

Nonconformance: Other (describe in detail)
 Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	04/10/2006	The first count of the LCS had a 71% recovery. It was recounted with a 79% recovery. Data will be accepted. The difference is considered counting statistics.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	04/10/2006	The LCS was recounted.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

Verified By	Due Date	Status	Notes
			This section not yet completed by QA.

Approval History

Date Approved	Approved By	Position
---------------	-------------	----------

4/10/2006 11:30:43 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/10/2005, 4/15/2006, Batch: '6060339', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060339				
AC	CalcC	HansenM	3/20/2006 4:07:38 PM	
SC		wagarr	IsBatched	3/1/2006 4:16:24 PM
SC		HansenM	InPrep2	3/20/2006 4:07:38 PM
SC		ScottM	InPrep2	3/31/2006 7:28:41 AM
SC		HansenM	Prep2C	4/4/2006 5:03:06 PM
SC		DAWKINSO	InCnt1	4/4/2006 5:34:42 PM
SC		StringerR	CalcC	4/5/2006 2:09:43 PM
SC		StringerR	InCnt1	4/6/2006 11:01:50 AM
SC		DAWKINSO	CalcC	4/6/2006 7:33:13 PM
AC		ScottM	3/31/2006 7:28:41	
AC		HansenM	4/4/2006 5:03:06 PM	
AC		DAWKINSO	4/4/2006 5:34:42 PM	
AC		StringerR	4/5/2006 2:09:43 PM	
AC		StringerR	4/6/2006 11:01:50	
AC		DAWKINSO	4/6/2006 7:33:13 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/10/2006 11:30:42 AM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert moa	Sample Date Units expected	Yield	Volumes
31025	9HX81110		J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM		
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00 5.298E+00	PCI/SA	1.0	1.0E+0 3.405E-2
31025	9HX81210		J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM		
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00 5.209E+00	PCI/SA	1.0	1.0E+0 3.295E-2
31025	9HX81310		J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM		
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00 5.341E+00	PCI/SA	1.0	1.0E+0 3.367E-2
31025	9HX81410		J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM		
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00 4.713E+00	PCI/SA	1.0	1.0E+0 3.318E-2
31025	9HX81510		J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM		
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00 5.06E+00	PCI/SA	1.0	1.0E+0 3.357E-2
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM		
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00 5.184E+00	PCI/SA	1.0	1.0E+0 3.3E-2
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM		
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00 5.291E+00	PCI/SA	1.0	1.0E+0 3.384E-2
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM		
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00 5.36E+00	PCI/SA	1.0	1.0E+0 3.447E-2
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00 5.408E+00	PCI/SA	1.0	1.0E+0 3.278E-2
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM		
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00 5.034E+00	PCI/SA	1.0	1.0E+0 3.315E-2
31025	9HX81R10		J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM		
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00 5.53E+00	PCI/SA	1.0	1.0E+0 3.319E-2
31025	9HX81T10		J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM		
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00 5.406E+00	PCI/SA	1.0	1.0E+0 3.204E-2
31025	9HX81V10		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM		
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.6437E+01	1.736E+00	2.071E+00 5.472E+00	PCI/SA	1.0	1.0E+0 3.311E-2
31025	9HX81W10		J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM		
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00 5.064E+00	PCI/SA	1.0	1.0E+0 3.342E-2
31025	9HX81X10		J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM		
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00 5.918E+00	PCI/SA	1.0	1.0E+0 3.372E-2
31025	H0EQR1AB		J6C010000339	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.2121E-01	1.064E-01	1.082E-01 4.228E-01	PCI/SA	1.0	1.0E+0 1.0E+0
31025	H0EQR2CS		J6C010000339	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
BETA	BDS8	1	4/6/2006 12:21:44 PM	3.5647E+00	1.857E-01	3.094E-01 4.255E-01	PCI/SA	4.5286E+00 1.0	1.0E+0 1.0E+0

6060339, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0.

**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.

**Diff RptDb | Qtimes => .

Alpha Beta, Beta by GPC-Sr/Y , Results
Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Beta by GPC-Sr/Y			Richland Standard Gross Alpha/Beta Wo Blk Subt											
Calc	S8	AIR	HX81N1AF	BETA	1.32E+01	(1.89E+00)		PCI/SA	R	2.59E+00	5.41E+00		100%	
Calc	S8	AIR	HX81Q1AF	BETA	1.15E+01	(1.81E+00)		PCI/SA	R	2.41E+00	5.03E+00		100%	
Calc	S8	AIR	HX81R1AF	BETA	1.33E+01	(1.90E+00)		PCI/SA	R	2.66E+00	5.53E+00		100%	
Calc	S8	AIR	HX81T1AF	BETA	1.91E+01	(2.23E+00)		PCI/SA	R	2.59E+00	5.41E+00		100%	
Calc	S8	AIR	HX81V1AF	BETA	1.64E+01	(2.07E+00)		PCI/SA	R	2.63E+00	5.47E+00		100%	
Calc	S8	AIR	HX81W1AF	BETA	1.38E+01	(2.02E+00)		PCI/SA	R	2.42E+00	5.06E+00		100%	
Calc	S8	AIR	HX81X1AF	BETA	1.33E+01	(1.99E+00)		PCI/SA	R	2.85E+00	5.92E+00		100%	
Calc	S8	AIR	HX8111AF	BETA	1.51E+00	(1.30E+00)	U4	PCI/SA	R	2.53E+00	5.30E+00		100%	
Calc	S8	AIR	HX8121AF	BETA	1.76E+01	(2.10E+00)		PCI/SA	R	2.49E+00	5.21E+00		100%	
Calc	S8	AIR	HX8131AF	BETA	1.63E+01	(2.03E+00)		PCI/SA	R	2.56E+00	5.34E+00		100%	
Calc	S8	AIR	HX8141AF	BETA	1.89E+01	(2.50E+00)		PCI/SA	R	2.26E+00	4.71E+00		100%	
Calc	S8	AIR	HX8151AF	BETA	2.51E+01	(2.52E+00)		PCI/SA	R	2.42E+00	5.06E+00		100%	
Calc	S8	AIR	HX8161AF	BETA	2.47E+01	(2.53E+00)		PCI/SA	R	2.48E+00	5.18E+00		100%	
Calc	S8	AIR	HX8171AF	BETA	2.41E+01	(2.51E+00)		PCI/SA	R	2.53E+00	5.29E+00		100%	
Calc	S8	AIR	HX8181AF	BETA	-1.29E+00	(1.22E+00)	U4	PCI/SA	R	2.57E+00	5.36E+00		100%	
Calc	S8	AIR	H0EQR1AA	BETA	2.21E-01	(1.08E-01)		PCI/SA	R	2.02E-01	4.23E-01	B	100%	
Calc	S8	AIR	H0EQR1AC	BETA	3.26E+00	(2.93E-01)		PCI/SA	R	2.38E-01	4.95E-01	S	100%	71%
Calc	S8	AIR	H0EQR2AC	BETA	3.56E+00	(3.09E-01)		PCI/SA	R	2.04E-01	4.26E-01	S	100%	79%

P. Anderson
4.7.06

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC - Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:18
 RADCALC v4.8.21
 STL Richland

Batch Nbr: 6060339

Alpha Beta, Beta by GPC-Sr/Y, Calculated Results
Detailed Report

4/6/2006 6:16:05 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	S8	AIR	*STLE	GabWoBS	HX81N1AF	PCI/SA		02/05/06 06:00	04/05/06 09:14			1	1.00 Sa				
536403,P 0510					J6B270158-1 v4.8.21		AIR			02.3				0.082777 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	343	610	GPC31A	1.5	N	N	4.4013E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.294E-02)	(0.000E+00)		5%			(0.000E+00)	12.080612		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.188273		1.06667E+00	2.423552	2.423552	1.00 Sa	100%		5.408349						
				(1.890132)		(1.3298E-01)	(0.333253)	(0.333253)	(0.027064)			2.594026						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	S8	AIR	*STLE	GabWoBS	HX81Q1AF	PCI/SA		02/05/06 06:35	04/05/06 09:14			1	1.00 Sa				
536403,P 0511					J6B270158-2 v4.8.21		AIR			01.2				0.083146 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	307	548	GPC31B	1.5	N	N	4.4724E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.469E-02)	(0.000E+00)		5%			(0.000E+00)	12.027095		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	11.515864		9.50667E-01	2.125637	2.125637	1.00 Sa	100%		5.033679						
				(1.809982)		(1.2584E-01)	(0.322865)	(0.322865)	(0.027064)			2.408845						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
3	Calc	S8	AIR	*STLE	GabWoBS	HX81R1AF	PCI/SA		02/05/06 07:15	04/05/06 09:14			1	1.00 Sa				
536403,P 0512					J6B270158-3 v4.8.21		AIR			01.2				0.083194 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	360	656	GPC31C	1.5	N	N	4.4347E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.863E-03)	(0.000E+00)		5%			(0.000E+00)	12.020159		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.283728		1.08800E+00	2.453371	2.453371	1.00 Sa	100%		5.530224						
				(1.895445)		(1.3647E-01)	(0.335742)	(0.335742)	(0.027064)			2.656399						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	S8	AIR	*STLE	GabWoBS	HX81T1AF	PCI/SA		02/05/06 07:45	04/05/06 09:14			1	1.00 Sa				
536403,P 0513					J6B270158-4 v4.8.21		AIR			02.8				0.082044 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	395	569	GPC32A	1.5	N	N	4.2966E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.033E-02)	(0.000E+00)		5%			(0.000E+00)	12.188588		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																RecCnt:4		
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																RADCALC v4.8.21		
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																STL Richland		

Batch Nbr: 6060339														Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/6/2006 6:16:05 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/05/06	BETA	R	19.107976 (2.226714)		1.49533E+00 (1.4082E-01)	3.480284 (0.380412)	3.480284 (0.380412)	1.00 Sa (0.027064)	100%			5.406397 2.589304												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
5	Calc	S8	AIR	*STLE	GabWoBS	HX81V1AF	PCI/SA		02/05/06 08:15	04/05/06 09:14			1	1.00 Sa											
536403,P 0514					J6B270158-5 v4.8.21	AIR			04.2					0.083111 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 10:29	BETA	386	623	GPC32B	1.5	N	N	4.3767E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.064E-02)	(0.000E+00)		5%			(0.000E+00)	12.032173									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/05/06	BETA	R	16.436874 (2.070971)		1.32733E+00 (1.4017E-01)	3.032694 (0.361926)	3.032694 (0.361926)	1.00 Sa (0.027064)	100%			5.471868 2.62563												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
6	Calc	S8	AIR	*STLE	GabWoBS	HX81W1AF	PCI/SA		02/05/06 08:40	04/05/06 09:14			1	1.00 Sa											
536403,P 0515					J6B270158-6 v4.8.21	AIR			03.8					0.083425 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 10:29	BETA	336	551	GPC32C	1.5	N	N	4.4424E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(2.771E-02)	(0.000E+00)		5%			(0.000E+00)	11.986841									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/05/06	BETA	R	13.83169 (2.016618)		1.13800E+00 (1.3091E-01)	2.561674 (0.358856)	2.561674 (0.358856)	1.00 Sa (0.027064)	100%			5.06389 2.423589												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
7	Calc	S8	AIR	*STLE	GabWoBS	HX81X1AF	PCI/SA		02/05/06 06:10	04/05/06 09:14			1	1.00 Sa											
536403,P 0516					J6B270158-7 v4.8.21	AIR			01.8					0.083722 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 10:29	BETA	374	716	GPC32D	1.5	N	N	4.2959E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.330E-02)	(0.000E+00)		5%			(0.000E+00)	11.944241									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/05/06	BETA	R	13.29224 (1.988988)		1.06133E+00 (1.3959E-01)	2.470546 (0.35595)	2.470546 (0.35595)	1.00 Sa (0.027064)	100%			5.916438 2.846775												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
8	Calc	S8	AIR	*STLE	GabWoBS	HX8111AF	PCI/SA		02/05/06 06:15	04/05/06 10:15			1	1.00 Sa											
536403,P 0517					J6B270158-8 v4.8.21	AIR			01.3					0.084045 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									
Page 2													RecCnt:8		RADCALC v4.8.21										
															STL Richland										

Batch Nbr: 6060339										Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/6/2006 6:16:05 PM								
1	04/05/06 11:30	BETA	180	541	GPC26C 1.5	N	N	4.1779E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			150	500		Y		(1.032E-02)	(0.000E+00)		5%		(0.000E+00)	11.89834														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC														
	04/05/06	BETA	R	1.513749	U4	1.18000E-01	0.282437	0.282437	1.00 Sa	100%		5.298088																
				(1.297509)		(1.0082E-01)	(0.241821)	(0.241821)	(0.027064)			2.534666																
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol													
9	Calc	S8	AIR	*STLE	GabWoBS	HX8121AF	PCI/SA		02/05/06 06:05	04/05/06 10:15		1		1.00 Sa														
536403,000357					J6B270158-9 v4.8.21	AIR				02.7				0.082945 Sa														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn										
1	04/05/06 11:30	BETA	366	529	GPC26D 1.5	N	N	4.2600E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			150	500		Y		(8.750E-03)	(0.000E+00)		5%		(0.000E+00)	12.056129														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC														
	04/05/06	BETA	R	17.617674		1.38200E+00	3.244099	3.244099	1.00 Sa	100%		5.208723																
				(2.097848)		(1.3558E-01)	(0.363378)	(0.363378)	(0.027064)			2.490684																
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol													
10	Calc	S8	AIR	*STLE	GabWoBS	HX8131AF	PCI/SA		02/05/06 06:40	04/05/06 10:15		1		1.00 Sa														
536403,000358					J6B270158-10 v4.8.21	AIR				02.8				0.083666 Sa														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn										
1	04/05/06 11:30	BETA	382	608	GPC27A 1.5	N	N	4.4028E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			150	500		Y		(9.704E-03)	(0.000E+00)		5%		(0.000E+00)	11.952306														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC														
	04/05/06	BETA	R	16.272015		1.33067E+00	3.022338	3.022338	1.00 Sa	100%		5.340647																
				(2.031073)		(1.3932E-01)	(0.356938)	(0.356938)	(0.027064)			2.561381																
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol													
11	Calc	S8	AIR	*STLE	GabWoBS	HX8141AF	PCI/SA		02/05/06 07:20	04/05/06 10:15		1		1.00 Sa														
536403,000359					J6B270158-11 v4.8.21	AIR				03.0				0.083177 Sa														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn										
1	04/05/06 11:30	BETA	446	610	GPC27B 1.5	N	N	5.0261E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			150	500		Y		(3.949E-02)	(0.000E+00)		5%		(0.000E+00)	12.022509														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC														
	04/05/06	BETA	R	18.89193		1.75333E+00	3.488467	3.488467	1.00 Sa	100%		4.713216																
				(2.502549)		(1.4921E-01)	(0.440085)	(0.440085)	(0.027064)			2.260617																
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															Page 3										RecCnt:12			
																									RADCALC v4.8.21			
																									STL Richland			

Batch Nbr: 6060339										Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/6/2006 6:16:05 PM						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
12	Calc	S8	AIR	*STLE	GabWoBS	HX8151AF	PCI/SA		02/05/06 07:50	04/05/06 10:15			1	1.00 Sa												
536403,000360										J6B270158-12 v4.8.21										AIR		06.1		0.083566 Sa		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
1	04/05/06 11:30	BETA	481	560	GPC27C	1.5	N	N	4.4728E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(9.894E-03)	(0.000E+00)		5%			(0.000E+00)	11.966585										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/05/06	BETA	R	25.147197		2.08667E+00	4.665227	4.665227	1.00 Sa	100%		5.060041														
				(2.520487)		(1.5368E-01)	(0.427917)	(0.427917)	(0.027064)			2.422595														
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
13	Calc	S8	AIR	*STLE	GabWoBS	HX8161AF	PCI/SA		02/05/06 08:20	04/05/06 10:15			1	1.00 Sa												
536403,000361										J6B270158-13 v4.8.21										AIR		10.7		0.082997 Sa		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
1	04/05/06 11:30	BETA	471	566	GPC27D	1.5	N	N	4.4186E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(1.118E-02)	(0.000E+00)		5%			(0.000E+00)	12.048699										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/05/06	BETA	R	24.664342		2.00800E+00	4.544465	4.544465	1.00 Sa	100%		5.183681														
				(2.530443)		(1.5231E-01)	(0.428563)	(0.428563)	(0.027064)			2.482357														
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
14	Calc	S8	AIR	*STLE	GabWoBS	HX8171AF	PCI/SA		02/05/06 08:45	04/05/06 11:54			1	1.00 Sa												
536403,000362										J6B270158-14 v4.8.21										AIR		02.8		0.083836 Sa		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
1	04/05/06 13:09	BETA	460	569	GPC32A	1.5	N	N	4.2966E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(1.033E-02)	(0.000E+00)		5%			(0.000E+00)	11.928004										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/05/06	BETA	R	24.118384		1.92867E+00	4.488837	4.488837	1.00 Sa	100%		5.290811														
				(2.50865)		(1.5073E-01)	(0.430237)	(0.430237)	(0.027064)			2.533946														
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
15	Calc	S8	AIR	*STLE	GabWoBS	HX8181AF	PCI/SA		02/05/06 06:45	04/05/06 11:54			1	1.00 Sa												
536403,000363										J6B270158-15 v4.8.21										AIR		01.5		0.084465 Sa		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
1	04/05/06 13:09	BETA	171	623	GPC32B	1.5	N	N	4.3961E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(1.068E-02)	(0.000E+00)		5%			(0.000E+00)	11.839178										
										Page 4										RecCnt:15						
										() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU										RADCALC v4.8.21						
										IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration										STL Richland						
										Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																

Batch Nbr: 6060339														Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/6/2006 6:16:06 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	-1.28591 (1.22189)	U4	-1.06000E-01 (1.0046E-01)	-0.241125 (0.228913)	-0.241125 (0.228913)	1.00 Sa (0.027064)	100%			5.36045 2.572167												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
16	Calc	S8	AIR	*STLE	GabWoBS	H0EQR1AA	PCI/SA	B	02/05/06 06:00	04/05/06 11:54			1	1.00 Sa											
0,INTRA-LAB BLANK				J6C010000-339				AIR		00.1				1.00 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 13:09	BETA	198	551	GPC32C	1.5	N	N	4.4391E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(2.769E-02)	(0.000E+00)		5%			(0.000E+00)	1.00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	0.221211 (0.108176)		2.18000E-01 (1.0490E-01)	0.49109 (0.239548)	0.49109 (0.239548)	1.00 Sa (0.017321)	100%			0.422768 0.202338												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
17	Calc	S8	AIR	*STLE	GabWoBS	H0EQR1AC	PCI/SA	S	02/05/06 06:00	04/05/06 11:54		BESB2757	1	1.00 Sa											
0,INTRA-LAB CHECK				J6C010000-339				AIR		00.2		BESB2757 Aliq		1.00 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 13:09	BETA	682	716	GPC32D	1.5	N	N	4.3004E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(1.332E-02)	(0.000E+00)		5%			(0.000E+00)	1.00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	3.262462 (0.293238)		3.11467E+00 (1.8214E-01)	7.242673 (0.600699)	7.242673 (0.600699)	1.00 Sa (0.017321)	100%	71%		0.494821 0.23809												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
18	Calc	S8	AIR	*STLE	GabWoBS	H0EQR2AC	PCI/SA	S	02/05/06 06:00	04/06/06 12:21		BESB2727	1	1.00 Sa											
0,INTRA-LAB CHECK				J6C010000-339				AIR		00.2				1.00 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/06/06 13:36	BETA	679	538	GPC28B	1.5	N	N	4.3604E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00									
			150	500			Y		(1.085E-02)	(0.000E+00)		5%			(0.000E+00)	1.00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/06/06	BETA	R	3.5647 (0.309425)		3.45067E+00 (1.7980E-01)	7.913643 (0.604484)	7.913643 (0.604484)	1.00 Sa (0.028284)	100%	79%		0.425513 0.203545												
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									

Page 5

RecCnt:18

RADCALC v4.8.21

STL Richland

STL RICHLAND

4/4/2006 5:23:16 PM

536403, Brown and Caldwell
Caldwell

, Brown &

Sample Preparation/Analysis

BD Gross Beta PrpRC5016/5014

S8 Gross Beta by GPC using Sr/Y-90 curve

01 STANDARD TEST SET

Balance Id:1120373922

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:








Batch: 6060339 FILTER

pCi/sample

PM, Quote: EJ, 63174

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Trace Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:	
1 HX81N-1-AF J6B270158-1-SAMP  02/05/2006 06:00	0.833sa	503.56sa	50.04g,in	0.0828g		1.5	2.3	150	31a	1030	4/5/06 re
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
2 HX81Q-1-AF J6B270158-2-SAMP  02/05/2006 06:35	0.833sa	501.73sa	50.08g,in	0.0831g		1.2		31b			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
3 HX81R-1-AF J6B270158-3-SAMP  02/05/2006 07:15	0.833sa	500.94sa	50.03g,in	0.0832g		1.2		31c			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
4 HX81T-1-AF J6B270158-4-SAMP  02/05/2006 07:45	0.833sa	508.67sa	50.10g,in	0.082g		2.8		32a			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
5 HX81V-1-AF J6B270158-5-SAMP  02/05/2006 08:15	0.833sa	501.14sa	50.00g,in	0.0831g		4.2		32b			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
6 HX81W-1-AF J6B270158-6-SAMP  02/05/2006 08:40	0.833sa	500.55sa	50.13g,in	0.0834g		3.8		32c			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	
7 HX81X-1-AF J6B270158-7-SAMP  02/05/2006 08:10	0.833sa	500.96sa	50.35g,in	0.0837g		1.8		32d			
AmtRec: FOLDER				#Containers: 1			Scr:	Alpha:		Beta:	

1049

STL RICHLAND

4/4/2006 5:23:17 PM

536403, Brown and Caldwell
Caldwell

, Brown &

Sample Preparation/Analysis

Balance Id:1120373922

BD Gross Beta PrpRC5016/5014

S8 Gross Beta by GPC using Sr/Y-90 curve

Pipet #:

01 STANDARD TEST SET

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060339 FILTER

pCi/sampl

SEQ Batch, Test: None

PM, Quote: EJ, 63174

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 HX811-1-AF J6B270158-8-SAMP 02/05/2006 06:15 AmtRec: FOLDER #Containers: 1	0.833sa	501.81sa	50.63g.in	0.084g		150	26c	1132		4/5/06 R
9 HX812-1-AF J6B270158-9-SAMP 02/05/2006 06:05 AmtRec: FOLDER #Containers: 1	0.833sa	507.36sa	50.52g.in	0.0829g			26d			
10 HX813-1-AF J6B270158-10-SAMP 02/05/2006 06:40 AmtRec: FOLDER #Containers: 1	0.833sa	500.90sa	50.31g.in	0.0837g			27a			
11 HX814-1-AF J6B270158-11-SAMP 02/05/2006 07:20 AmtRec: FOLDER #Containers: 1	0.833sa	502.44sa	50.17g.in	0.0832g			27b			
12 HX815-1-AF J6B270158-12-SAMP 02/05/2006 07:50 AmtRec: FOLDER #Containers: 1	0.833sa	501.00sa	50.26g.in	0.0836g			27c			
13 HX816-1-AF J6B270158-13-SAMP 02/05/2006 08:20 AmtRec: FOLDER #Containers: 1	0.833sa	505.04sa	50.32g.in	0.083g			27d			
14 HX817-1-AF J6B270158-14-SAMP 02/05/2006 08:45 AmtRec: FOLDER #Containers: 1	0.833sa	501.67sa	50.49g.in	0.0838g			32a	1309		4/5/06 R

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

ICOC v4.8.20

1050

4/4/2006 5:23:17 PM

536403, Brown and Caldwell

, Brown &

Sample Preparation/Analysis

BD Gross Beta PrpRC5016/5014

S8 Gross Beta by GPC using Sr/Y-90 curve

01 STANDARD TEST SET

Balance Id:1120373922

Pipet #:

Report Due: 03/31/2006

Batch: 6060339 FILTER

pCi/sampl

PM, Quote: EJ, 63174

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15HX818-1-AF	0.833sa	501.09sa	50.81g,in	0.0845g						
J6B270158-15-SAMP										
02/05/2006 06:45										
16H0EQR-1-AA-B										
J6C010000-339-BLK										
02/05/2006 06:00										
17H0EQR-1-AC-C										
J6C010000-339-LCS										
02/05/2006 06:00										

Comments:

10% collodion was added mid 4-4-06

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ, 63174

HX81N1AF-SAMP Constituent List:

BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H0EQR1AA-BLK:											
BETA	RDL:5	pCi/sam	LCL:	UCL:	RPD:						
H0EQR1AC-LCS:											
Cs-137	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	Cs-137DA	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20
Sr-90	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20						

HX81N1AF-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQR1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQR1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 3

ISV - Insufficient Volume for Analysis

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 17

ICOC v4.8.20

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Beta by GPC-Sr/Y			Richland Standard Gross Alpha/Beta Wo Blk Subt											
Calc	S8	AIR	HX81N1AF	BETA	1.32E+01	(1.89E+00)		PCI/SA	R	2.59E+00	5.41E+00	✱	100%	
Calc	S8	AIR	HX81Q1AF	BETA	1.15E+01	(1.81E+00)		PCI/SA	R	2.41E+00	5.03E+00		100%	
Calc	S8	AIR	HX81R1AF	BETA	1.33E+01	(1.90E+00)		PCI/SA	R	2.66E+00	5.53E+00	✱	100%	
Calc	S8	AIR	HX81T1AF	BETA	1.91E+01	(2.23E+00)		PCI/SA	R	2.59E+00	5.41E+00	✱	100%	
Calc	S8	AIR	HX81V1AF	BETA	1.64E+01	(2.07E+00)		PCI/SA	R	2.63E+00	5.47E+00	✱	100%	
Calc	S8	AIR	HX81W1AF	BETA	1.38E+01	(2.02E+00)		PCI/SA	R	2.42E+00	5.06E+00		100%	
Calc	S8	AIR	HX81X1AF	BETA	1.33E+01	(1.99E+00)		PCI/SA	R	2.85E+00	5.92E+00	✱	100%	
Calc	S8	AIR	HX8111AF	BETA	1.51E+00	(1.30E+00)	U4	PCI/SA	R	2.53E+00	5.30E+00	✱	100%	
Calc	S8	AIR	HX8121AF	BETA	1.76E+01	(2.10E+00)		PCI/SA	R	2.49E+00	5.21E+00	✱	100%	
Calc	S8	AIR	HX8131AF	BETA	1.63E+01	(2.03E+00)		PCI/SA	R	2.56E+00	5.34E+00	✱	100%	
Calc	S8	AIR	HX8141AF	BETA	1.89E+01	(2.50E+00)		PCI/SA	R	2.26E+00	4.71E+00		100%	
Calc	S8	AIR	HX8151AF	BETA	2.51E+01	(2.52E+00)		PCI/SA	R	2.42E+00	5.06E+00		100%	
Calc	S8	AIR	HX8161AF	BETA	2.47E+01	(2.53E+00)		PCI/SA	R	2.48E+00	5.18E+00	✱	100%	
Calc	S8	AIR	HX8171AF	BETA	2.41E+01	(2.51E+00)		PCI/SA	R	2.53E+00	5.29E+00	✱	100%	
Calc	S8	AIR	HX8181AF	BETA	-1.29E+00	(1.22E+00)	U4	PCI/SA	R	2.57E+00	5.36E+00	✱	100%	
Calc	S8	AIR	H0EQR1AA	BETA	2.21E-01	(1.08E-01)		PCI/SA	R	2.02E-01	4.23E-01	B	100%	
Calc	S8	AIR	H0EQR1AC	BETA	3.26E+00	(2.93E-01)		PCI/SA	R	2.38E-01	4.95E-01	S	100%	71%

✱ results > mda > CRDL

P Anderson
4-6-06

Batch Nbr: 6060339

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results
Detailed Report

4/5/2006 2:07:46 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	S8	AIR	*STLE	GabWoBS	HX81N1AF	PCI/SA		02/05/06 06:00	04/05/06 09:14		1		1.00 Sa				
536403,P 0510					J6B270158-1 v4.8.21		AIR			02.3				0.082777 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	343	610	GPC31A	1.5	N	N	4.4013E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.294E-02)	(0.000E+00)		5%			(0.000E+00)	12.080612		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.188273		1.06667E+00	2.423552	2.423552	1.00 Sa	100%			5.408349					
				(1.890132)		(1.3298E-01)	(0.333253)	(0.333253)	(0.027064)				2.594026					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	S8	AIR	*STLE	GabWoBS	HX81Q1AF	PCI/SA		02/05/06 06:35	04/05/06 09:14		1		1.00 Sa				
536403,P 0511					J6B270158-2 v4.8.21		AIR			01.2				0.083146 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	307	548	GPC31B	1.5	N	N	4.4724E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.469E-02)	(0.000E+00)		5%			(0.000E+00)	12.027095		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	11.515864		9.50667E-01	2.125637	2.125637	1.00 Sa	100%			5.033679					
				(1.809982)		(1.2584E-01)	(0.322865)	(0.322865)	(0.027064)				2.408845					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
3	Calc	S8	AIR	*STLE	GabWoBS	HX81R1AF	PCI/SA		02/05/06 07:15	04/05/06 09:14		1		1.00 Sa				
536403,P 0512					J6B270158-3 v4.8.21		AIR			01.2				0.083194 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	360	656	GPC31C	1.5	N	N	4.4347E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.863E-03)	(0.000E+00)		5%			(0.000E+00)	12.020159		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.283728		1.08800E+00	2.453371	2.453371	1.00 Sa	100%			5.530224					
				(1.895445)		(1.3647E-01)	(0.335742)	(0.335742)	(0.027064)				2.656399					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	S8	AIR	*STLE	GabWoBS	HX81T1AF	PCI/SA		02/05/06 07:45	04/05/06 09:14		1		1.00 Sa				
536403,P 0513					J6B270158-4 v4.8.21		AIR			02.8				0.082044 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	395	569	GPC32A	1.5	N	N	4.2966E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.033E-02)	(0.000E+00)		5%			(0.000E+00)	12.188588		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:4		RADCALC v4.8.21	
Page 1																	STL Richland	

Batch Nbr: 6060339

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

4/5/2006 2:07:46 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	19.107976 (2.226714)		1.49533E+00 (1.4082E-01)	3.480284 (0.380412)	3.480284 (0.380412)	1.00 Sa (0.027064)	100%		5.408397 2.589304						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
5	Calc	S8	AIR	*STLE	GabWoBS	HX81V1AF	PCI/SA		02/05/06 08:15	04/05/06 09:14			1	1.00 Sa				
536403,P 0514					J6B270158-5 v4.8.21		AIR			04.2				0.083111 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	386	623	GPC32B	1.5	N	N	4.3767E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.064E-02)	(0.000E+00)		5%		(0.000E+00)	12.032173			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	16.436874 (2.070971)		1.32733E+00 (1.4017E-01)	3.032694 (0.361926)	3.032694 (0.361926)	1.00 Sa (0.027064)	100%		5.471868 2.62563						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	S8	AIR	*STLE	GabWoBS	HX81W1AF	PCI/SA		02/05/06 08:40	04/05/06 09:14			1	1.00 Sa				
536403,P 0515					J6B270158-6 v4.8.21		AIR			03.8				0.083425 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	336	551	GPC32C	1.5	N	N	4.4424E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(2.771E-02)	(0.000E+00)		5%		(0.000E+00)	11.986841			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.83169 (2.016618)		1.13800E+00 (1.3091E-01)	2.561674 (0.358856)	2.561674 (0.358856)	1.00 Sa (0.027064)	100%		5.06389 2.423589						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
7	Calc	S8	AIR	*STLE	GabWoBS	HX81X1AF	PCI/SA		02/05/06 06:10	04/05/06 09:14			1	1.00 Sa				
536403,P 0516					J6B270158-7 v4.8.21		AIR			01.8				0.083722 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 10:29	BETA	374	716	GPC32D	1.5	N	N	4.2959E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			150	500			Y		(1.330E-02)	(0.000E+00)		5%		(0.000E+00)	11.944241			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	13.29224 (1.988988)		1.06133E+00 (1.3959E-01)	2.470546 (0.35595)	2.470546 (0.35595)	1.00 Sa (0.027064)	100%		5.916438 2.846775						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
8	Calc	S8	AIR	*STLE	GabWoBS	HX8111AF	PCI/SA		02/05/06 06:15	04/05/06 10:15			1	1.00 Sa				
536403,P 0517					J6B270158-8 v4.8.21		AIR			01.3				0.084045 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

<

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 2

RecCnt:8

RADCALC v4.8.21

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060339

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

4/5/2006 2:07:47 PM

1	04/05/06 11:30	BETA	180	541	GPC26C 1.5	N	N	4.1779E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			150	500		Y		(1.032E-02)	(0.000E+00)		5%		(0.000E+00)	11.89834				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	1.513749	U4	1.18000E-01	0.282437	0.282437	1.00 Sa	100%		5.298088						
				(1.297509)		(1.0082E-01)	(0.241821)	(0.241821)	(0.027064)			2.534666						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
9	Calc	S8	AIR	*STLE	GabWoBS	HX8121AF	PCI/SA		02/05/06 06:05	04/05/06 10:15			1	1.00 Sa				
536403,000357					J6B270158-9 v4.8.21	AIR			02.7					0.082945 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 11:30	BETA	366	529	GPC26D 1.5	N	N	4.2600E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			150	500		Y		(8.750E-03)	(0.000E+00)		5%			(0.000E+00)	12.056129			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	17.617674		1.38200E+00	3.244099	3.244099	1.00 Sa	100%		5.208723						
				(2.097848)		(1.3558E-01)	(0.363378)	(0.363378)	(0.027064)			2.490684						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
10	Calc	S8	AIR	*STLE	GabWoBS	HX8131AF	PCI/SA		02/05/06 06:40	04/05/06 10:15			1	1.00 Sa				
536403,000358					J6B270158-10 v4.8.21	AIR			02.8					0.083666 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 11:30	BETA	382	608	GPC27A 1.5	N	N	4.4028E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			150	500		Y		(9.704E-03)	(0.000E+00)		5%			(0.000E+00)	11.952306			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	16.272015		1.33067E+00	3.022338	3.022338	1.00 Sa	100%		5.340647						
				(2.031073)		(1.3932E-01)	(0.356938)	(0.356938)	(0.027064)			2.561381						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
11	Calc	S8	AIR	*STLE	GabWoBS	HX8141AF	PCI/SA		02/05/06 07:20	04/05/06 10:15			1	1.00 Sa				
536403,000359					J6B270158-11 v4.8.21	AIR			03.0					0.083177 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 11:30	BETA	446	610	GPC27B 1.5	N	N	5.0261E-01	1.0000E+00	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			150	500		Y		(3.949E-02)	(0.000E+00)		5%			(0.000E+00)	12.022509			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/05/06	BETA	R	18.89193		1.75333E+00	3.488467	3.488467	1.00 Sa	100%		4.713216						
				(2.502549)		(1.4921E-01)	(0.440085)	(0.440085)	(0.027064)			2.260617						

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 3

RecCnt:12

RADCALC v4.8.21

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060339										Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/5/2006 2:07:47 PM					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
12	Calc	S8	AIR	*STLE	GabWoBS	HX8151AF	PCI/SA		02/05/06 07:50	04/05/06 10:15			1	1.00 Sa											
536403,000360										J6B270158-12 v4.8.21										AIR		06.1		0.083566 Sa	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 11:30	BETA	481	560	GPC27C	1.5	N	N	4.4728E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(9.894E-03)	(0.000E+00)		5%			(0.000E+00)	11.966585									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	25.147197		2.08667E+00	4.665227	4.665227	1.00 Sa	100%		5.060041													
				(2.520487)		(1.5368E-01)	(0.427917)	(0.427917)	(0.027064)			2.422595													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
13	Calc	S8	AIR	*STLE	GabWoBS	HX8161AF	PCI/SA		02/05/06 08:20	04/05/06 10:15			1	1.00 Sa											
536403,000361										J6B270158-13 v4.8.21										AIR		10.7		0.082997 Sa	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 11:30	BETA	471	566	GPC27D	1.5	N	N	4.4186E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.118E-02)	(0.000E+00)		5%			(0.000E+00)	12.048699									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	24.664342		2.00800E+00	4.544465	4.544465	1.00 Sa	100%		5.183681													
				(2.530443)		(1.5231E-01)	(0.428563)	(0.428563)	(0.027064)			2.482357													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
14	Calc	S8	AIR	*STLE	GabWoBS	HX8171AF	PCI/SA		02/05/06 08:45	04/05/06 11:54			1	1.00 Sa											
536403,000362										J6B270158-14 v4.8.21										AIR		02.8		0.083836 Sa	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 13:09	BETA	460	569	GPC32A	1.5	N	N	4.2966E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.033E-02)	(0.000E+00)		5%			(0.000E+00)	11.928004									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/05/06	BETA	R	24.118384		1.92867E+00	4.488837	4.488837	1.00 Sa	100%		5.290811													
				(2.50865)		(1.5073E-01)	(0.430237)	(0.430237)	(0.027064)			2.533946													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
15	Calc	S8	AIR	*STLE	GabWoBS	HX8181AF	PCI/SA		02/05/06 06:45	04/05/06 11:54			1	1.00 Sa											
536403,000363										J6B270158-15 v4.8.21										AIR		01.5		0.084465 Sa	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
1	04/05/06 13:09	BETA	171	623	GPC32B	1.5	N	N	4.3961E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00								
			150	500			Y		(1.068E-02)	(0.000E+00)		5%			(0.000E+00)	11.839178									
										Page 4										RecCnt:15					
										IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration										RADCALC v4.8.21					
										Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time										STL Richland					

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Batch Nbr: 6060339				Alpha Beta, Beta by GPC-Sr/Y , Calculated Results										4/5/2006 2:07:47 PM				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/05/06	BETA	R	-1.28591 (1.22189)	U4	-1.06000E-01 (1.0046E-01)	-0.241125 (0.228913)	-0.241125 (0.228913)	1.00 Sa (0.027064)	100%		5.36045 2.572167						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
16	Calc	S8	AIR	*STLE	GabWoBS	H0EQR1AA	PCI/SA	B	02/05/06 06:00	04/05/06 11:54			1	1.00 Sa				
0,INTRA-LAB BLANK																		
J6C010000-339																		
AIR																		
00.1																		
1.00 Sa																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 13:09	BETA	198	551	GPC32C	1.5	N	N	4.4391E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.769E-02)	(0.000E+00)		5%			(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/05/06	BETA	R	0.221211 (0.108176)		2.18000E-01 (1.0490E-01)	0.49109 (0.239548)	0.49109 (0.239548)	1.00 Sa (0.017321)	100%			0.422768 0.202338					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
17	Calc	S8	AIR	*STLE	GabWoBS	H0EQR1AC	PCI/SA	S	02/05/06 06:00	04/05/06 11:54				1.00 Sa				
0,INTRA-LAB CHECK																		
J6C010000-339																		
AIR																		
00.2																		
BESB2757																		
BESB2757 Aliq																		
1.00 Sa																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/05/06 13:09	BETA	682	716	GPC32D	1.5	N	N	4.3004E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.332E-02)	(0.000E+00)		5%			(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/05/06	BETA	R	3.262462 (0.293238)		3.11467E+00 (1.8214E-01)	7.242673 (0.600699)	7.242673 (0.600699)	1.00 Sa (0.017321)	100%	71%		0.494821 0.23809					
recounted																		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 5
RecCnt:17
RADCALC v4.8.21
STL Richland

BETA

STANDARDS AND TRACEABILITY

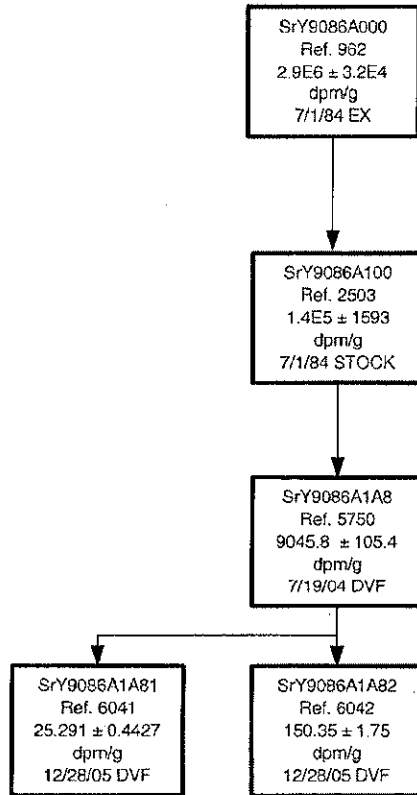
5/26/2006 12:07:29 PM

Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Like: BESB2757%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: SRY9086A1A82 Ref: 12/28/2005 1.5035E+02 ± 1.164E+00 DPM/G						
BESB2757	SRY-90	1.0222E+01 ± 8.192E-02 DPM	0.0684 g	3/30/2006 3/30/2006	Armstrong	1.4945E+02 ± 1.157E+00 DPM/G
1.0222E+001 ± 1.022E+001 (1) 1.0222E+001 , 1.0222E+001						

SrY9086A1A48



ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>12/28/2005</u>
3) Source Identification Number / Ref. Number	<u>SRY9086A1A8</u>	<u>5750</u>	
4) Source Activity (dpm \pm dpm/g)	<u>8.7400E+03</u>	\pm	<u>1.018E+02</u>
5) Percent error of Source Activity	<u>1.1165</u>	%	
6) Weight of Source Material used (g)	<u>2.1494</u>		
7) (% Error) of Weight of Source Material used	<u>0.2233</u>	%	
8) Diluent	<u>2M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>124.95</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2401</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.5035E+02</u>	\pm	<u>1.750E+00</u>
12) Total Uncertainty	<u>1.164</u>	%	
13) Dilution Identification Number / Ref. Number	<u>SRY9086A1A82</u>	<u>6042</u>	
14) Calibration Reference Date	<u>12/28/2005</u>		
15) Isotope Inventory File update by/date	<u>tda</u>	<u>12/28/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>1/17/2006</u>	
17) Location <u>QCLAB</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity } ^2 + \% \text{ error of Wt. Used } ^2 + \% \text{ error of Dilution Wt. } ^2)}$

Form: CC-006, 7/15/99, Rev 3

SrY90 Verification Check				
				1/4/2006
SrY9086A1A82 #6042				
150.35 ± 1.75 dpm/g				
I.D.	dpm	dpm	% yield	
	found	expected		
DVF2287	148.202	150.67	98.36	
DVF2288	153.997	150.16	102.56	
DVF2289	149.969	150.08	99.93	
		Average	101.24	
		Std. Dev	1.86	
The original NIST Certificate is located in Document Control Department.				

Liquid Scintillation Counting Sheet

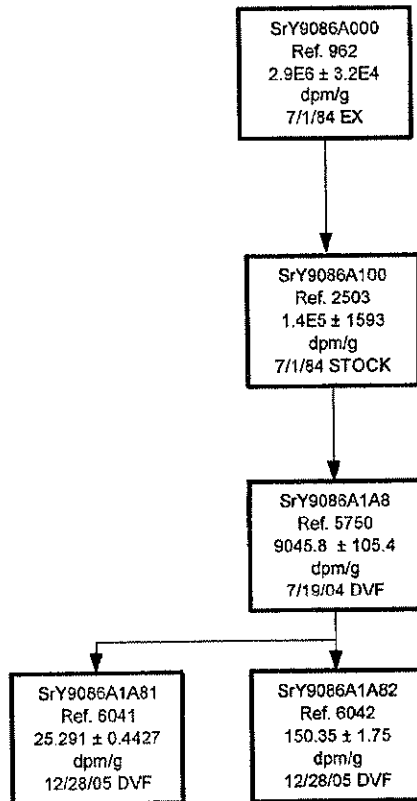
QC BATCH Number: T060002

Position	WorkOrder No.	Volume Analyzed (g mL L Hr)	Total Sample Volume (g mL L) OR Multiplier	Vial Label or Spike Value	Preparation Information
1	BN			5 mL DEAD WATER	Analysis: <u>SrY90</u>
2	DVF 2284	SrY9086A1A81		SAME AS WO #	Matrix: <u>DIRECT QC</u>
3	2285	↓	#6041	↓	Client: <u>RICH</u>
4	2286	↓		↓	Date Cocktail Added: <u>1/3/06</u>
5	2287	SrY9086A1A82			Total Count Time <u>30</u> min
6	2288	↓	#6042	↓	Volume Counted: <u>DIRECT</u> mLs
7	2289	↓		↓	Tray No(s): <u>15</u>
8					Initials: <u>TOA</u>
9					Counting Information
10					Tower No: <u>3</u>
11					LSC#: <u>4</u>
12					CR Initials: <u>LB</u>
13					Comments
14					15 mL READY GEL
15					TO ALL SAMPLES
16					
17					
18					
19					
20					
21					
22					
23					
24					

Protocol #: 3 Name: ET-DPM Cal Check 03-Jan-06 16:57
 Region A: LL-UL= 0.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.50
 Region B: LL-UL= 0.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
 Region C: LL-UL= 0.0- 0.0 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
 Time = 30.00 QIP = tSIE ES Terminator = Count
 Set up 29-Jan-1992 M. Lane
 Luminescence Correction On

S#	TIME	CPMA A:25%	tSIE	SIS	LUM	FLAG
1	30.00	47.30	5.30	354.0	1032.6	1 B
ET CPM = 47.300 Background						
2	30.00	25.90	15.55	361.6	670.21	1
ET DPM = 27.752						
3	30.00	26.20	15.40	362.3	776.11	1
ET DPM = 28.719						
4	30.00	26.80	15.09	363.5	626.49	1
ET DPM = 27.788						
5	30.00	146.13	3.88	361.9	719.13	0
ET DPM = 148.202						
6	30.00	150.63	3.80	365.0	745.49	0
ET DPM = 153.997						
7	30.00	145.83	3.88	359.1	665.61	0
ET DPM = 149.969						

SrY9086A1A48



Description	Principal radionuclide: Strontium-90	Product code: SIZ.44
	Daughter radionuclide: Yttrium-90	Solution number: S4/31/118

Measurement	Reference time:	1200 GMT on 1 July 1984	962
	Radioactive concentration of strontium-90:	1.316 microcuries per gram of solution	
	which is equivalent to:	48.7 kilobecquerels per gram of solution	
	Mass of solution:	5.0380 grams	
	Total activity of strontium-90:	6.63 microcuries	
	which is equivalent to:	245 kilobecquerels	
	Method of measurement used (see reverse of the certificate): K		

Accuracy	Overall uncertainty in the radioactive concentration quoted above:	$\pm 1.11 \%$
	Random uncertainty:	$\pm 0.21 \%$
	Systematic uncertainty:	$\pm 0.90 \%$
	Overall uncertainty is defined on the reverse of the certificate.	

Radionuclidic Purity	The estimated activities of any radioactive impurities found by high-resolution gamma ray spectrometry, or in any other examination of the solution, are listed below expressed as percentages of the activity of the principal radionuclide at the reference time.
	Other radionuclides less than 0.01 %

Chemical Composition	0.1M HCl containing 100 micrograms of strontium and 100 micrograms of yttrium per ml.
----------------------	---

Physical Data	Recommended half life: 28.6 ± 0.3 years
	Strontium-90: 100% beta particle emission.
	Yttrium-90: 100% beta particle emission. Half life 64.1 ± 0.1 hours.
	The activity of the yttrium-90 is equal to the activity of the strontium-90.

Remarks	Tests made over a period of 2 years on standardized solutions of strontium-90 stored in glass ampoules have shown that loss of strontium-90 from solution is negligible other than by radioactive decay.
---------	--

Approved
Signatory



A.G. Tuck

Methods of measurement

The measurement techniques listed below are currently in use at Amersham International for the absolute standardization of radioactive solutions. The methods used for this standardization are indicated on the front of the certificate.

Using a gas flow proportional counter

- A 4 π beta counting
- B 4 π alpha counting
- C 4 π internal conversion electron counting
- D 4 π coincidence counting
- E 4 π anticoincidence counting
- F 4 π coincidence and anticoincidence counting

Using a liquid scintillation counter

- G 4 π coincidence counting
- H 4 π anticoincidence counting
- J 4 π coincidence and anticoincidence counting
- K 4 π efficiency tracing

S.I. unit of radioactivity

The S.I. unit of radioactivity is the becquerel

1 becquerel (Bq) = 1 nuclear transformation per second, therefore

1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

- 1 microcurie (μ Ci) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)
- 1 millicurie (mCi) = 3.7×10^7 Bq = 37 megabecquerels (MBq)
- 1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)
- 1 megabecquerel (MBq) = 27.027 microcuries (μ Ci)

Overall Uncertainty

The overall uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties in the measurement.

BETA

CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAY-2006 11:37:29.06

QA Filename : \$DISK1:[QUAD26.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : Quad 26a Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 57.400002 Upper Bound : 59.869999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 58.635849 Std Deviation : 0.412047

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:01	CHK		59.3000		
2-MAR-2006 05:34	CHK		59.5000	In	
3-MAR-2006 05:25	CHK		58.7000		
3-MAR-2006 05:41	CHK		No Value		
4-MAR-2006 09:07	CHK		59.0000		
7-MAR-2006 05:23	CHK		58.6000		
8-MAR-2006 05:52	CHK		58.1000		
8-MAR-2006 06:23	CHK		No Value		
9-MAR-2006 05:37	CHK		57.8000	In	
10-MAR-2006 06:13	CHK		58.4000		
13-MAR-2006 05:14	CHK		58.8000		
13-MAR-2006 05:33	CHK		No Value		
14-MAR-2006 04:56	CHK		58.8000		
14-MAR-2006 05:18	CHK		No Value		
15-MAR-2006 05:07	CHK		58.6000		
15-MAR-2006 05:25	CHK		No Value		
16-MAR-2006 06:53	CHK		58.9000		
17-MAR-2006 05:50	CHK		58.5000		
18-MAR-2006 07:12	CHK		59.3000		
20-MAR-2006 05:03	CHK		59.1000		
21-MAR-2006 05:04	CHK		58.7000		

Only 26 D
was used

21-MAR-2006 05:21	CHK	No Value	
22-MAR-2006 05:35	CHK	58.7000	
22-MAR-2006 06:03	CHK	No Value	
23-MAR-2006 06:13	CHK	59.4000	
24-MAR-2006 05:26	CHK	59.3000	
25-MAR-2006 08:10	CHK	59.7000	In
26-MAR-2006 07:14	CHK	58.9000	
27-MAR-2006 05:08	CHK	59.9000	Ab Ac
27-MAR-2006 05:27	CHK	59.9000	Ab Ac
28-MAR-2006 04:54	CHK	59.0000	
28-MAR-2006 05:16	CHK	No Value	
29-MAR-2006 05:51	CHK	58.9000	
30-MAR-2006 05:33	CHK	59.3000	
31-MAR-2006 06:21	CHK	59.5000	In
31-MAR-2006 06:37	CHK	No Value	
3-APR-2006 04:51	CHK	59.2000	
4-APR-2006 05:37	CHK	58.8000	

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-APR-2006 04:58	CHK	59.5000	In	
6-APR-2006 05:57	CHK	59.1000		
7-APR-2006 05:48	CHK	58.8000		
10-APR-2006 05:19	CHK	58.5000		
11-APR-2006 05:02	CHK	58.5000		
12-APR-2006 06:13	CHK	57.4000	In	
12-APR-2006 06:28	CHK	No Value		

-- Multi-Test Full Report --

Description : Quad 26b Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 53.349998 Upper Bound : 56.200001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 54.786793 Std Deviation : 0.476420

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 05:01	CHK		53.5000	In	
2-MAR-2006 05:34	CHK		53.8000	In	
3-MAR-2006 05:25	CHK		52.7000	Be Ac	
3-MAR-2006 05:41	CHK		52.9000	Be Ac	
4-MAR-2006 09:07	CHK		53.9000		
7-MAR-2006 05:23	CHK		53.7000	In	
8-MAR-2006 05:52	CHK		53.1000	Be Ac	
8-MAR-2006 06:23	CHK		52.5000	Be Ac	
9-MAR-2006 05:37	CHK		54.4000		
10-MAR-2006 06:13	CHK		54.2000		
13-MAR-2006 05:14	CHK		54.0000		
13-MAR-2006 05:33	CHK		No Value		
14-MAR-2006 04:56	CHK		53.7000	In	
14-MAR-2006 05:18	CHK		No Value		
15-MAR-2006 05:07	CHK		53.7000	In	
15-MAR-2006 05:25	CHK		No Value		
16-MAR-2006 06:53	CHK		54.4000		
17-MAR-2006 05:50	CHK		52.9000	Be Ac	
18-MAR-2006 07:12	CHK		54.1000		
20-MAR-2006 05:03	CHK		53.7000	In	
21-MAR-2006 05:04	CHK		53.7000	In	
21-MAR-2006 05:21	CHK		No Value		
22-MAR-2006 05:35	CHK		53.0000	Be Ac	
22-MAR-2006 06:03	CHK		52.9000	Be Ac	
23-MAR-2006 06:13	CHK		53.7000	In	
24-MAR-2006 05:26	CHK		53.7000	In	
25-MAR-2006 08:10	CHK		53.8000	In	
26-MAR-2006 07:14	CHK		54.1000		
27-MAR-2006 05:08	CHK		54.4000		
27-MAR-2006 05:27	CHK		No Value		
28-MAR-2006 04:54	CHK		54.2000		
Quality Assurance Multi-Test Full Report (continued)			Page : 3		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
28-MAR-2006 05:16	CHK		No Value		
29-MAR-2006 05:51	CHK		53.9000		
30-MAR-2006 05:33	CHK		54.0000		
31-MAR-2006 06:21	CHK		53.5000	In	
31-MAR-2006 06:37	CHK		No Value		
3-APR-2006 04:51	CHK		53.8000	In	

4-APR-2006 05:37	CHK	53.6000	In	
5-APR-2006 04:58	CHK	53.9000		
6-APR-2006 05:57	CHK	54.3000		
7-APR-2006 05:48	CHK	54.1000		
10-APR-2006 05:19	CHK	53.8000	In	
11-APR-2006 05:02	CHK	54.3000		
12-APR-2006 06:13	CHK	53.1000	Be Ac	
12-APR-2006 06:28	CHK	53.5000	In	

-- Multi-Test Full Report --

Description : Quad 26c Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 52.130001 Upper Bound : 55.400002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 53.755695 Std Deviation : 0.540287

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:01	CHK	53.1000		
2-MAR-2006 05:34	CHK	53.8000		
3-MAR-2006 05:25	CHK	52.2000	In	
3-MAR-2006 05:41	CHK	No Value		
4-MAR-2006 09:07	CHK	52.5000	In	
7-MAR-2006 05:23	CHK	53.2000		
8-MAR-2006 05:52	CHK	51.8000	Be Ac	
8-MAR-2006 06:23	CHK	52.6000	In	
9-MAR-2006 05:37	CHK	52.9000		
10-MAR-2006 06:13	CHK	53.2000		
13-MAR-2006 05:14	CHK	51.7000	Be Ac	
13-MAR-2006 05:33	CHK	52.6000	In	
14-MAR-2006 04:56	CHK	51.9000	Be Ac	
14-MAR-2006 05:18	CHK	52.0000	Be Ac	
15-MAR-2006 05:07	CHK	51.5000	Be Ac	
15-MAR-2006 05:25	CHK	53.0000		
16-MAR-2006 06:53	CHK	52.9000		
17-MAR-2006 05:50	CHK	53.4000		

18-MAR-2006 07:12	CHK	52.3000	In	
20-MAR-2006 05:03	CHK	52.5000	In	
21-MAR-2006 05:04	CHK	52.0000	Be Ac	
21-MAR-2006 05:21	CHK	53.3000		
22-MAR-2006 05:35	CHK	53.8000		
22-MAR-2006 06:03	CHK	No Value		

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

23-MAR-2006 06:13	CHK	53.7000		
24-MAR-2006 05:26	CHK	52.3000	In	
25-MAR-2006 08:10	CHK	52.8000		
26-MAR-2006 07:14	CHK	52.3000	In	
27-MAR-2006 05:08	CHK	52.9000		
27-MAR-2006 05:27	CHK	No Value		
28-MAR-2006 04:54	CHK	52.0000	Be Ac	
28-MAR-2006 05:16	CHK	52.3000	In	
29-MAR-2006 05:51	CHK	52.6000	In	
30-MAR-2006 05:33	CHK	53.7000		
31-MAR-2006 06:21	CHK	52.1000	Be Ac	
31-MAR-2006 06:37	CHK	52.5000	In	
3-APR-2006 04:51	CHK	52.5000	In	
4-APR-2006 05:37	CHK	53.1000		
5-APR-2006 04:58	CHK	53.4000		
6-APR-2006 05:57	CHK	53.2000		
7-APR-2006 05:48	CHK	52.4000	In	
10-APR-2006 05:19	CHK	52.9000		
11-APR-2006 05:02	CHK	53.1000		
12-APR-2006 06:13	CHK	52.3000	In	
12-APR-2006 06:28	CHK	No Value		

-- Multi-Test Full Report --

Description : Quad 26d Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.000000 Upper Bound : 57.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 53.924530 Std Deviation : 1.018731

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 05:01	CHK		52.3000	
2-MAR-2006 05:34	CHK		53.4000	
3-MAR-2006 05:25	CHK		52.6000	
3-MAR-2006 05:41	CHK	No Value		
4-MAR-2006 09:07	CHK		53.6000	
7-MAR-2006 05:23	CHK		53.1000	
8-MAR-2006 05:52	CHK		51.9000	
8-MAR-2006 06:23	CHK	No Value		
9-MAR-2006 05:37	CHK		53.0000	
10-MAR-2006 06:13	CHK		52.9000	
13-MAR-2006 05:14	CHK		53.8000	
13-MAR-2006 05:33	CHK	No Value		
14-MAR-2006 04:56	CHK		53.2000	
14-MAR-2006 05:18	CHK	No Value		
15-MAR-2006 05:07	CHK		53.1000	
15-MAR-2006 05:25	CHK	No Value		
16-MAR-2006 06:53	CHK		53.5000	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
17-MAR-2006 05:50	CHK		53.0000	
18-MAR-2006 07:12	CHK		54.1000	
20-MAR-2006 05:03	CHK		53.1000	
21-MAR-2006 05:04	CHK		54.3000	
21-MAR-2006 05:21	CHK	No Value		
22-MAR-2006 05:35	CHK		53.8000	
22-MAR-2006 06:03	CHK	No Value		
23-MAR-2006 06:13	CHK		52.4000	
24-MAR-2006 05:26	CHK		53.0000	
25-MAR-2006 08:10	CHK		52.9000	
26-MAR-2006 07:14	CHK		52.2000	
27-MAR-2006 05:08	CHK		53.2000	
27-MAR-2006 05:27	CHK	No Value		
28-MAR-2006 04:54	CHK		53.2000	
28-MAR-2006 05:16	CHK	No Value		
29-MAR-2006 05:51	CHK		54.2000	
30-MAR-2006 05:33	CHK		54.1000	

31-MAR-2006 06:21	CHK	51.8000	In	
31-MAR-2006 06:37	CHK	No Value		
3-APR-2006 04:51	CHK	53.5000		
4-APR-2006 05:37	CHK	53.2000		
5-APR-2006 04:58	CHK	53.7000		
6-APR-2006 05:57	CHK	53.7000		
7-APR-2006 05:48	CHK	53.7000		
10-APR-2006 05:19	CHK	53.6000		
11-APR-2006 05:02	CHK	53.1000		
12-APR-2006 06:13	CHK	53.8000		
12-APR-2006 06:28	CHK	No Value		

Quality Assurance Report.

Generated 26-MAY-2006 11:37:37.74

QA Filename : \$DISK1:[QUAD27.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : Quad 27a Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 57.349998 Upper Bound : 63.287998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 60.319565 Std Deviation : 0.989589

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:00	CHK		60.0000	
2-MAR-2006 05:33	CHK		60.5000	
3-MAR-2006 05:24	CHK		59.9000	
4-MAR-2006 09:06	CHK		60.2000	
7-MAR-2006 05:22	CHK		59.7000	
8-MAR-2006 05:51	CHK		60.1000	
9-MAR-2006 05:36	CHK		60.4000	
10-MAR-2006 06:12	CHK		60.4000	
13-MAR-2006 05:13	CHK		60.3000	
14-MAR-2006 04:55	CHK		60.2000	
15-MAR-2006 05:06	CHK		60.2000	
16-MAR-2006 06:52	CHK		60.3000	
17-MAR-2006 05:49	CHK		59.9000	
18-MAR-2006 07:11	CHK		60.3000	
20-MAR-2006 05:03	CHK		60.3000	
21-MAR-2006 05:03	CHK		60.0000	
22-MAR-2006 05:34	CHK		60.0000	
23-MAR-2006 06:12	CHK		60.0000	
24-MAR-2006 05:25	CHK		60.6000	
25-MAR-2006 08:10	CHK		60.5000	
26-MAR-2006 07:13	CHK		60.8000	

27-MAR-2006 05:07	CHK	60.6000			
28-MAR-2006 04:53	CHK	61.0000			
29-MAR-2006 05:50	CHK	60.6000			
30-MAR-2006 05:32	CHK	59.9000			
31-MAR-2006 06:20	CHK	59.9000			
3-APR-2006 04:50	CHK	60.3000			
4-APR-2006 05:36	CHK	60.8000			
5-APR-2006 04:57	CHK	59.8000			
6-APR-2006 05:56	CHK	61.0000			
7-APR-2006 05:47	CHK	60.5000			
10-APR-2006 05:18	CHK	60.4000			
11-APR-2006 05:01	CHK	60.3000			
12-APR-2006 06:12	CHK	60.0000			

-- Multi-Test Full Report --

Description : Quad 27b Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 53.250000 Upper Bound : 60.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 56.591892 Std Deviation : 1.112864

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued)			Page : 2		
--	--	--	----------	--	--

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:00	CHK	56.1000			
2-MAR-2006 05:33	CHK	57.5000			
3-MAR-2006 05:24	CHK	57.0000			
4-MAR-2006 09:06	CHK	57.0000			
7-MAR-2006 05:22	CHK	56.7000			
8-MAR-2006 05:51	CHK	57.2000			
9-MAR-2006 05:36	CHK	56.6000			
10-MAR-2006 06:12	CHK	57.2000			
13-MAR-2006 05:13	CHK	57.3000			

14-MAR-2006 04:55	CHK	56.5000			
15-MAR-2006 05:06	CHK	56.7000			
16-MAR-2006 06:52	CHK	56.0000			
17-MAR-2006 05:49	CHK	56.7000			
18-MAR-2006 07:11	CHK	56.3000			
20-MAR-2006 05:03	CHK	56.8000			
21-MAR-2006 05:03	CHK	56.4000			
22-MAR-2006 05:34	CHK	56.5000			
23-MAR-2006 06:12	CHK	56.5000			
24-MAR-2006 05:25	CHK	55.0000			
25-MAR-2006 08:10	CHK	56.7000			
26-MAR-2006 07:13	CHK	55.6000			
27-MAR-2006 05:07	CHK	57.2000			
28-MAR-2006 04:53	CHK	57.0000			
29-MAR-2006 05:50	CHK	56.8000			
30-MAR-2006 05:32	CHK	56.9000			
31-MAR-2006 06:20	CHK	56.3000			
3-APR-2006 04:50	CHK	57.0000			
4-APR-2006 05:36	CHK	56.6000			
5-APR-2006 04:57	CHK	57.2000			
6-APR-2006 05:56	CHK	57.2000			
7-APR-2006 05:47	CHK	56.9000			
10-APR-2006 05:18	CHK	57.7000			
11-APR-2006 05:01	CHK	57.0000			
12-APR-2006 06:12	CHK	57.0000			

-- Multi-Test Full Report --

Description : Quad 27c Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 49.400002 Upper Bound : 53.560001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 51.482067 Std Deviation : 0.693336

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:00	CHK		51.4000			
------------------	-----	--	---------	--	--	--

2-MAR-2006 05:33	CHK	51.9000			
3-MAR-2006 05:24	CHK	51.7000			
4-MAR-2006 09:06	CHK	51.3000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

7-MAR-2006 05:22	CHK	51.3000			
8-MAR-2006 05:51	CHK	50.9000			
9-MAR-2006 05:36	CHK	51.6000			
10-MAR-2006 06:12	CHK	51.3000			
13-MAR-2006 05:13	CHK	51.1000			
14-MAR-2006 04:55	CHK	51.8000			
15-MAR-2006 05:06	CHK	51.7000			
16-MAR-2006 06:52	CHK	51.3000			
17-MAR-2006 05:49	CHK	50.9000			
18-MAR-2006 07:11	CHK	51.0000			
20-MAR-2006 05:03	CHK	51.3000			
21-MAR-2006 05:03	CHK	51.3000			
22-MAR-2006 05:34	CHK	51.4000			
23-MAR-2006 06:12	CHK	51.1000			
24-MAR-2006 05:25	CHK	52.1000			
25-MAR-2006 08:10	CHK	51.1000			
26-MAR-2006 07:13	CHK	51.4000			
27-MAR-2006 05:07	CHK	51.5000			
28-MAR-2006 04:53	CHK	51.8000			
29-MAR-2006 05:50	CHK	51.6000			
30-MAR-2006 05:32	CHK	51.6000			
31-MAR-2006 06:20	CHK	51.6000			
3-APR-2006 04:50	CHK	51.3000			
4-APR-2006 05:36	CHK	51.3000			
5-APR-2006 04:57	CHK	51.5000			
6-APR-2006 05:56	CHK	51.6000			
7-APR-2006 05:47	CHK	51.5000			
10-APR-2006 05:18	CHK	50.9000			
11-APR-2006 05:01	CHK	51.5000			
12-APR-2006 06:12	CHK	51.4000			

-- Multi-Test Full Report --

Description : Quad 27d Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 55.299999 Upper Bound : 58.160000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 56.713795 Std Deviation : 0.481548

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:00	CHK		56.9000	
2-MAR-2006 05:33	CHK		57.1000	
3-MAR-2006 05:24	CHK		57.3000	
4-MAR-2006 09:06	CHK		57.1000	
7-MAR-2006 05:22	CHK		56.6000	
8-MAR-2006 05:51	CHK		56.7000	
9-MAR-2006 05:36	CHK		56.9000	
10-MAR-2006 06:12	CHK		57.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 05:13	CHK		56.8000	
14-MAR-2006 04:55	CHK		57.0000	
15-MAR-2006 05:06	CHK		57.1000	
16-MAR-2006 06:52	CHK		57.0000	
17-MAR-2006 05:49	CHK		56.4000	
18-MAR-2006 07:11	CHK		56.3000	
20-MAR-2006 05:03	CHK		57.1000	
21-MAR-2006 05:03	CHK		57.0000	
22-MAR-2006 05:34	CHK		56.6000	
23-MAR-2006 06:12	CHK		57.1000	
24-MAR-2006 05:25	CHK		56.3000	
25-MAR-2006 08:10	CHK		57.2000	
26-MAR-2006 07:13	CHK		56.5000	
27-MAR-2006 05:07	CHK		57.1000	
28-MAR-2006 04:53	CHK		56.1000	
29-MAR-2006 05:50	CHK		56.8000	
30-MAR-2006 05:32	CHK		57.3000	
31-MAR-2006 06:20	CHK		57.0000	
3-APR-2006 04:50	CHK		56.9000	
4-APR-2006 05:36	CHK		57.3000	

5-APR-2006 04:57	CHK	56.7000			
6-APR-2006 05:56	CHK	56.7000			
7-APR-2006 05:47	CHK	56.9000			
10-APR-2006 05:18	CHK	56.8000			
11-APR-2006 05:01	CHK	56.6000			
12-APR-2006 06:12	CHK	57.1000			

Quality Assurance Report.

Generated 26-MAY-2006 11:37:44.44

QA Filename : \$DISK1:[QUAD28.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : Quad 28a Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 52.439999 Upper Bound : 59.369999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 55.908554 Std Deviation : 1.154028

28 A ← not used

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:25	CHK		57.3000		
2-MAR-2006 05:51	CHK		57.6000		
3-MAR-2006 05:52	CHK		56.8000		
4-MAR-2006 09:22	CHK		57.0000		
7-MAR-2006 05:36	CHK		59.3000	In	
8-MAR-2006 06:40	CHK		59.9000	Ab Ac	
8-MAR-2006 06:57	CHK		59.5000	Ab Ac	
9-MAR-2006 06:07	CHK		59.7000	Ab Ac	
10-MAR-2006 06:30	CHK		59.8000	Ab Ac	
13-MAR-2006 05:47	CHK		59.4000	Ab Ac	
13-MAR-2006 06:01	CHK		59.2000	In	
14-MAR-2006 05:31	CHK		60.2000	Ab Ac	
14-MAR-2006 05:46	CHK		59.8000	Ab Ac	
15-MAR-2006 05:36	CHK		59.7000	Ab Ac	
15-MAR-2006 05:52	CHK		59.6000	Ab Ac	
16-MAR-2006 07:08	CHK		59.4000	Ab Ac	
17-MAR-2006 06:08	CHK		60.0000	Ab Ac	
17-MAR-2006 06:26	CHK		59.7000	Ab Ac	
18-MAR-2006 07:30	CHK		59.7000	Ab Ac	
20-MAR-2006 05:25	CHK		59.9000	Ab Ac	
21-MAR-2006 05:35	CHK		60.5000	Ab Ac	

21-MAR-2006 05:49	CHK	60.1000	Ab Ac	
22-MAR-2006 06:19	CHK	59.8000	Ab Ac	
23-MAR-2006 06:31	CHK	60.2000	Ab Ac	
24-MAR-2006 05:42	CHK	59.7000	Ab Ac	
25-MAR-2006 08:27	CHK	60.0000	Ab Ac	
26-MAR-2006 07:29	CHK	60.3000	Ab Ac	
27-MAR-2006 05:39	CHK	59.7000	Ab Ac	
28-MAR-2006 05:27	CHK	59.6000	Ab Ac	
29-MAR-2006 06:07	CHK	59.6000	Ab Ac	
30-MAR-2006 05:49	CHK	58.9000	In	
31-MAR-2006 06:48	CHK	59.0000	In	
3-APR-2006 05:17	CHK	58.8000	In	
4-APR-2006 05:54	CHK	59.9000	Ab Ac	
5-APR-2006 05:14	CHK	59.5000	Ab Ac	
6-APR-2006 06:19	CHK	59.2000	In	
7-APR-2006 06:04	CHK	58.8000	In	
10-APR-2006 05:39	CHK	59.2000	In	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

11-APR-2006 05:21	CHK		58.5000	In	
12-APR-2006 06:46	CHK		59.0000	In	

-- Multi-Test Full Report --

Description : Quad 28b Beta %Eff
 Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 48.619999 Upper Bound : 56.290001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 52.463158 Std Deviation : 1.277917

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

1-MAR-2006 05:25	CHK		52.2000		
2-MAR-2006 05:51	CHK		52.9000		
3-MAR-2006 05:52	CHK		52.1000		

4-MAR-2006 09:22	CHK	52.5000			
7-MAR-2006 05:36	CHK	54.1000			
8-MAR-2006 06:40	CHK	54.6000			
8-MAR-2006 06:57	CHK	No Value			
9-MAR-2006 06:07	CHK	54.0000			
10-MAR-2006 06:30	CHK	54.2000			
13-MAR-2006 05:47	CHK	54.1000			
13-MAR-2006 06:01	CHK	No Value			
14-MAR-2006 05:31	CHK	54.1000			
14-MAR-2006 05:46	CHK	No Value			
15-MAR-2006 05:36	CHK	54.2000			
15-MAR-2006 05:52	CHK	No Value			
16-MAR-2006 07:08	CHK	54.0000			
17-MAR-2006 06:08	CHK	53.7000			
17-MAR-2006 06:26	CHK	No Value			
18-MAR-2006 07:30	CHK	54.5000			
20-MAR-2006 05:25	CHK	54.3000			
21-MAR-2006 05:35	CHK	54.4000			
21-MAR-2006 05:49	CHK	No Value			
22-MAR-2006 06:19	CHK	53.9000			
23-MAR-2006 06:31	CHK	53.5000			
24-MAR-2006 05:42	CHK	53.9000			
25-MAR-2006 08:27	CHK	54.4000			
26-MAR-2006 07:29	CHK	54.4000			
27-MAR-2006 05:39	CHK	54.2000			
28-MAR-2006 05:27	CHK	53.9000			
29-MAR-2006 06:07	CHK	54.4000			
30-MAR-2006 05:49	CHK	54.1000			
31-MAR-2006 06:48	CHK	54.2000			
3-APR-2006 05:17	CHK	54.3000			
4-APR-2006 05:54	CHK	53.9000			
5-APR-2006 05:14	CHK	54.1000			
✓6-APR-2006 06:19	CHK	54.3000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

7-APR-2006 06:04	CHK		53.7000	
10-APR-2006 05:39	CHK		54.2000	
11-APR-2006 05:21	CHK		53.8000	
12-APR-2006 06:46	CHK		54.0000	

-- Multi-Test Full Report --

Description : Quad 28c Beta %Eff

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.277000 Upper Bound : 56.939999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 53.701317 Std Deviation : 1.141510

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:25	CHK		53.9000		
2-MAR-2006 05:51	CHK		54.7000		
3-MAR-2006 05:52	CHK		53.5000		
4-MAR-2006 09:22	CHK		52.8000		
7-MAR-2006 05:36	CHK		55.2000		
8-MAR-2006 06:40	CHK		55.3000		
8-MAR-2006 06:57	CHK	No Value			
9-MAR-2006 06:07	CHK		55.8000		
10-MAR-2006 06:30	CHK		55.2000		
13-MAR-2006 05:47	CHK		55.1000		
13-MAR-2006 06:01	CHK	No Value			
14-MAR-2006 05:31	CHK		55.2000		
14-MAR-2006 05:46	CHK	No Value			
15-MAR-2006 05:36	CHK		55.7000		
15-MAR-2006 05:52	CHK	No Value			
16-MAR-2006 07:08	CHK		55.0000		
17-MAR-2006 06:08	CHK		55.2000		
17-MAR-2006 06:26	CHK	No Value			
18-MAR-2006 07:30	CHK		55.1000		
20-MAR-2006 05:25	CHK		55.6000		
21-MAR-2006 05:35	CHK		55.5000		
21-MAR-2006 05:49	CHK	No Value			
22-MAR-2006 06:19	CHK		55.4000		
23-MAR-2006 06:31	CHK		55.5000		
24-MAR-2006 05:42	CHK		55.3000		
25-MAR-2006 08:27	CHK		55.6000		
26-MAR-2006 07:29	CHK		55.3000		
27-MAR-2006 05:39	CHK		54.7000		

28-MAR-2006 05:27	CHK	55.8000			
29-MAR-2006 06:07	CHK	55.4000			
30-MAR-2006 05:49	CHK	55.4000			
31-MAR-2006 06:48	CHK	55.2000			
3-APR-2006 05:17	CHK	55.4000			
4-APR-2006 05:54	CHK	55.8000			

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

5-APR-2006 05:14	CHK	55.3000			
6-APR-2006 06:19	CHK	55.3000			
7-APR-2006 06:04	CHK	55.3000			
10-APR-2006 05:39	CHK	55.3000			
11-APR-2006 05:21	CHK	55.2000			
12-APR-2006 06:46	CHK	55.5000			

-- Multi-Test Full Report --

Description : Quad 28d Beta %Eff
 Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 48.520000 Upper Bound : 57.124001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 52.821712 Std Deviation : 1.434989

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

1-MAR-2006 05:25	CHK	52.0000			
2-MAR-2006 05:51	CHK	52.8000			
3-MAR-2006 05:52	CHK	50.5000			
4-MAR-2006 09:22	CHK	51.8000			
7-MAR-2006 05:36	CHK	53.9000			
8-MAR-2006 06:40	CHK	54.1000			
8-MAR-2006 06:57	CHK	No Value			
9-MAR-2006 06:07	CHK	54.1000			
10-MAR-2006 06:30	CHK	54.7000			
13-MAR-2006 05:47	CHK	54.4000			

13-MAR-2006 06:01	CHK	No Value	
14-MAR-2006 05:31	CHK	54.0000	
14-MAR-2006 05:46	CHK	No Value	
15-MAR-2006 05:36	CHK	54.5000	
15-MAR-2006 05:52	CHK	No Value	
16-MAR-2006 07:08	CHK	54.4000	
17-MAR-2006 06:08	CHK	54.2000	
17-MAR-2006 06:26	CHK	No Value	
18-MAR-2006 07:30	CHK	54.3000	
20-MAR-2006 05:25	CHK	53.9000	
21-MAR-2006 05:35	CHK	53.6000	
21-MAR-2006 05:49	CHK	No Value	
22-MAR-2006 06:19	CHK	55.0000	
23-MAR-2006 06:31	CHK	54.4000	
24-MAR-2006 05:42	CHK	53.8000	
25-MAR-2006 08:27	CHK	54.0000	
26-MAR-2006 07:29	CHK	53.9000	
27-MAR-2006 05:39	CHK	53.8000	
28-MAR-2006 05:27	CHK	53.9000	
29-MAR-2006 06:07	CHK	54.3000	
30-MAR-2006 05:49	CHK	54.9000	
31-MAR-2006 06:48	CHK	54.7000	

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-APR-2006 05:17	CHK	53.4000	
4-APR-2006 05:54	CHK	54.2000	
5-APR-2006 05:14	CHK	54.4000	
6-APR-2006 06:19	CHK	54.2000	
7-APR-2006 06:04	CHK	53.9000	
10-APR-2006 05:39	CHK	54.2000	
11-APR-2006 05:21	CHK	53.9000	
12-APR-2006 06:46	CHK	54.1000	

Quality Assurance Report.

Generated 26-MAY-2006 11:37:54.89

QA Filename : \$DISK1:[QUAD31.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : QUAD 31A BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 56.799999 Upper Bound : 62.084999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 59.468987 Std Deviation : 0.872065

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:38	CHK		58.5000		
2-MAR-2006 06:04	CHK		58.9000		
3-MAR-2006 06:25	CHK		58.2000		
3-MAR-2006 06:43	CHK		No Value		
6-MAR-2006 05:31	CHK		58.7000		
7-MAR-2006 05:49	CHK		60.1000		
8-MAR-2006 07:12	CHK		59.0000		
9-MAR-2006 06:25	CHK		59.6000		
10-MAR-2006 06:51	CHK		60.3000		
13-MAR-2006 06:56	CHK		58.5000		
14-MAR-2006 05:55	CHK		60.0000		
15-MAR-2006 06:03	CHK		59.7000		
16-MAR-2006 07:22	CHK		59.6000		
17-MAR-2006 06:49	CHK		59.0000		
18-MAR-2006 07:52	CHK		59.4000		
20-MAR-2006 05:58	CHK		60.3000		
21-MAR-2006 06:02	CHK		58.6000		
22-MAR-2006 06:37	CHK		58.7000		
23-MAR-2006 06:52	CHK		59.3000		
24-MAR-2006 05:54	CHK		60.5000		
25-MAR-2006 08:50	CHK		59.9000		

26-MAR-2006 07:46	CHK	60.4000			
27-MAR-2006 05:53	CHK	60.9000			
28-MAR-2006 05:38	CHK	60.7000			
29-MAR-2006 06:21	CHK	58.4000			
30-MAR-2006 05:59	CHK	59.2000			
31-MAR-2006 05:29	CHK	59.2000			
3-APR-2006 05:28	CHK	59.0000			
4-APR-2006 06:16	CHK	59.9000			
5-APR-2006 05:48	CHK	59.3000			
6-APR-2006 06:37	CHK	57.9000			
7-APR-2006 05:14	CHK	59.3000			
10-APR-2006 05:50	CHK	59.1000			
11-APR-2006 05:36	CHK	60.5000			
12-APR-2006 07:03	CHK	57.3000	In		

-- Multi-Test Full Report --

Description : QUAD 31B BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 51.849998 Upper Bound : 57.303001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 54.579086 Std Deviation : 0.908270

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:38	CHK	54.6000			
2-MAR-2006 06:04	CHK	54.1000			
3-MAR-2006 06:25	CHK	52.9000			
3-MAR-2006 06:43	CHK	No Value			
6-MAR-2006 05:31	CHK	54.7000			
7-MAR-2006 05:49	CHK	53.7000			
8-MAR-2006 07:12	CHK	55.6000			
9-MAR-2006 06:25	CHK	54.7000			

10-MAR-2006 06:51	CHK	55.8000			
13-MAR-2006 06:56	CHK	54.7000			
14-MAR-2006 05:55	CHK	54.7000			
15-MAR-2006 06:03	CHK	55.0000			
16-MAR-2006 07:22	CHK	56.1000			
17-MAR-2006 06:49	CHK	55.3000			
18-MAR-2006 07:52	CHK	55.1000			
20-MAR-2006 05:58	CHK	55.4000			
21-MAR-2006 06:02	CHK	54.1000			
22-MAR-2006 06:37	CHK	55.1000			
23-MAR-2006 06:52	CHK	55.0000			
24-MAR-2006 05:54	CHK	55.6000			
25-MAR-2006 08:50	CHK	54.3000			
26-MAR-2006 07:46	CHK	55.4000			
27-MAR-2006 05:53	CHK	56.0000			
28-MAR-2006 05:38	CHK	55.3000			
29-MAR-2006 06:21	CHK	53.3000			
30-MAR-2006 05:59	CHK	55.7000			
31-MAR-2006 05:29	CHK	54.6000			
3-APR-2006 05:28	CHK	55.8000			
4-APR-2006 06:16	CHK	54.8000			
5-APR-2006 05:48	CHK	54.9000			
6-APR-2006 06:37	CHK	53.3000			
7-APR-2006 05:14	CHK	55.1000			
10-APR-2006 05:50	CHK	54.2000			
11-APR-2006 05:36	CHK	55.3000			
12-APR-2006 07:03	CHK	55.6000			

-- Multi-Test Full Report --

Description : QUAD 31C BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 47.715000 Upper Bound : 52.109001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 49.911842 Std Deviation : 0.732404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:38	CHK	48.9000			
2-MAR-2006 06:04	CHK	49.9000			
3-MAR-2006 06:25	CHK	47.7000	Be Ac		

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

3-MAR-2006 06:43	CHK	50.3000			
6-MAR-2006 05:31	CHK	50.0000			
7-MAR-2006 05:49	CHK	50.6000			
8-MAR-2006 07:12	CHK	50.0000			
9-MAR-2006 06:25	CHK	50.3000			
10-MAR-2006 06:51	CHK	50.3000			
13-MAR-2006 06:56	CHK	49.2000			
14-MAR-2006 05:55	CHK	50.0000			
15-MAR-2006 06:03	CHK	50.1000			
16-MAR-2006 07:22	CHK	50.4000			
17-MAR-2006 06:49	CHK	49.1000			
18-MAR-2006 07:52	CHK	50.5000			
20-MAR-2006 05:58	CHK	50.6000			
21-MAR-2006 06:02	CHK	49.6000			
22-MAR-2006 06:37	CHK	49.1000			
23-MAR-2006 06:52	CHK	49.9000			
24-MAR-2006 05:54	CHK	49.9000			
25-MAR-2006 08:50	CHK	48.6000			
26-MAR-2006 07:46	CHK	49.1000			
27-MAR-2006 05:53	CHK	50.1000			
28-MAR-2006 05:38	CHK	49.7000			
29-MAR-2006 06:21	CHK	49.3000			
30-MAR-2006 05:59	CHK	50.1000			
31-MAR-2006 05:29	CHK	50.3000			
3-APR-2006 05:28	CHK	49.7000			
4-APR-2006 06:16	CHK	50.0000			
5-APR-2006 05:48	CHK	50.4000			
6-APR-2006 06:37	CHK	50.1000			
7-APR-2006 05:14	CHK	49.6000			
10-APR-2006 05:50	CHK	50.3000			
11-APR-2006 05:36	CHK	49.7000			
12-APR-2006 07:03	CHK	49.1000			

-- Multi-Test Full Report --

Description : QUAD 31D BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 51.240002 Upper Bound : 56.770000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 54.005733 Std Deviation : 0.922110

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:38	CHK	54.1000		
2-MAR-2006 06:04	CHK	52.3000		
3-MAR-2006 06:25	CHK	52.3000		
3-MAR-2006 06:43	CHK	No Value		
6-MAR-2006 05:31	CHK	53.2000		
7-MAR-2006 05:49	CHK	53.6000		

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

8-MAR-2006 07:12	CHK	53.5000		
9-MAR-2006 06:25	CHK	53.8000		
10-MAR-2006 06:51	CHK	54.6000		
13-MAR-2006 06:56	CHK	52.7000		
14-MAR-2006 05:55	CHK	54.4000		
15-MAR-2006 06:03	CHK	54.3000		
16-MAR-2006 07:22	CHK	54.0000		
17-MAR-2006 06:49	CHK	53.8000		
18-MAR-2006 07:52	CHK	53.3000		
20-MAR-2006 05:58	CHK	54.7000		
21-MAR-2006 06:02	CHK	52.9000		
22-MAR-2006 06:37	CHK	53.2000		
23-MAR-2006 06:52	CHK	53.9000		
24-MAR-2006 05:54	CHK	54.9000		
25-MAR-2006 08:50	CHK	53.6000		
26-MAR-2006 07:46	CHK	53.9000		
27-MAR-2006 05:53	CHK	54.4000		
28-MAR-2006 05:38	CHK	54.5000		
29-MAR-2006 06:21	CHK	53.4000		

30-MAR-2006 05:59	CHK	54.0000			
31-MAR-2006 05:29	CHK	54.4000			
3-APR-2006 05:28	CHK	54.9000			
4-APR-2006 06:16	CHK	54.0000			
5-APR-2006 05:48	CHK	53.8000			
6-APR-2006 06:37	CHK	54.4000			
7-APR-2006 05:14	CHK	53.9000			
10-APR-2006 05:50	CHK	54.3000			
11-APR-2006 05:36	CHK	54.2000			
12-APR-2006 07:03	CHK	54.3000			

Quality Assurance Report.

Generated 26-MAY-2006 11:38:02.02

QA Filename : \$DISK1:[QUAD32.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : QUAD 32A BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 52.900002 Upper Bound : 58.599998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 55.764473 Std Deviation : 0.950525

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:56	CHK		56.1000		
2-MAR-2006 06:44	CHK		56.8000		
3-MAR-2006 06:44	CHK		57.0000		
6-MAR-2006 06:01	CHK		57.4000		
7-MAR-2006 06:06	CHK		57.0000		
8-MAR-2006 07:50	CHK		57.3000		
9-MAR-2006 06:58	CHK		58.3000	In	
10-MAR-2006 07:33	CHK		58.3000	In	
13-MAR-2006 06:57	CHK		57.4000		
14-MAR-2006 06:19	CHK		56.3000		
15-MAR-2006 06:33	CHK		57.8000	In	
16-MAR-2006 07:41	CHK		56.9000		
17-MAR-2006 07:24	CHK		57.2000		
18-MAR-2006 08:11	CHK		57.4000		
20-MAR-2006 06:14	CHK		56.2000		
21-MAR-2006 06:37	CHK		56.0000		
22-MAR-2006 06:57	CHK		56.8000		
23-MAR-2006 07:27	CHK		56.1000		
24-MAR-2006 06:26	CHK		57.0000		
25-MAR-2006 08:51	CHK		57.4000		
26-MAR-2006 07:47	CHK		57.3000		

27-MAR-2006 06:23	CHK	57.1000			
28-MAR-2006 06:06	CHK	56.9000			
29-MAR-2006 07:10	CHK	56.4000			
30-MAR-2006 06:30	CHK	56.7000			
31-MAR-2006 06:07	CHK	56.5000			
3-APR-2006 05:47	CHK	56.5000			
4-APR-2006 06:58	CHK	56.1000			
5-APR-2006 06:05	CHK	56.6000			
6-APR-2006 06:54	CHK	56.2000			
7-APR-2006 05:32	CHK	56.8000			
10-APR-2006 06:09	CHK	52.5000	Be Ac		
10-APR-2006 06:46	CHK	56.1000			
11-APR-2006 05:53	CHK	57.0000			
12-APR-2006 07:21	CHK	57.3000			

-- Multi-Test Full Report --

Description : QUAD 32B BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 48.599998 Upper Bound : 55.099998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 51.870121 Std Deviation : 1.082158

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:56	CHK	51.5000			
2-MAR-2006 06:44	CHK	51.8000			
3-MAR-2006 06:44	CHK	51.9000			
6-MAR-2006 06:01	CHK	51.9000			
7-MAR-2006 06:06	CHK	52.7000			
8-MAR-2006 07:50	CHK	52.4000			
9-MAR-2006 06:58	CHK	52.5000			
10-MAR-2006 07:33	CHK	52.8000			

13-MAR-2006 06:57	CHK	50.9000			
14-MAR-2006 06:19	CHK	51.2000			
15-MAR-2006 06:33	CHK	52.8000			
16-MAR-2006 07:41	CHK	51.1000			
17-MAR-2006 07:24	CHK	51.9000			
18-MAR-2006 08:11	CHK	52.2000			
20-MAR-2006 06:14	CHK	51.4000			
21-MAR-2006 06:37	CHK	51.1000			
22-MAR-2006 06:57	CHK	51.4000			
23-MAR-2006 07:27	CHK	50.9000			
24-MAR-2006 06:26	CHK	51.3000			
25-MAR-2006 08:51	CHK	51.4000			
26-MAR-2006 07:47	CHK	51.6000			
27-MAR-2006 06:23	CHK	51.7000			
28-MAR-2006 06:06	CHK	51.7000			
29-MAR-2006 07:10	CHK	51.8000			
30-MAR-2006 06:30	CHK	51.5000			
31-MAR-2006 06:07	CHK	50.5000			
3-APR-2006 05:47	CHK	52.2000			
4-APR-2006 06:58	CHK	51.0000			
5-APR-2006 06:05	CHK	51.2000			
6-APR-2006 06:54	CHK	51.1000			
7-APR-2006 05:32	CHK	52.2000			
10-APR-2006 06:09	CHK	47.9000	Be Ac		
10-APR-2006 06:46	CHK	50.6000			
11-APR-2006 05:53	CHK	52.1000			
12-APR-2006 07:21	CHK	51.7000			

-- Multi-Test Full Report --

Description : QUAD 32C BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 51.599998 Upper Bound : 57.400002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 54.507454 Std Deviation : 0.976125

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 05:56	CHK	54.1000			
2-MAR-2006 06:44	CHK	54.1000			
3-MAR-2006 06:44	CHK	54.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 06:01	CHK	55.2000			
7-MAR-2006 06:06	CHK	55.3000			
8-MAR-2006 07:50	CHK	55.4000			
9-MAR-2006 06:58	CHK	55.6000			
10-MAR-2006 07:33	CHK	55.8000			
13-MAR-2006 06:57	CHK	54.8000			
14-MAR-2006 06:19	CHK	54.1000			
15-MAR-2006 06:33	CHK	55.6000			
16-MAR-2006 07:41	CHK	54.7000			
17-MAR-2006 07:24	CHK	55.1000			
18-MAR-2006 08:11	CHK	55.4000			
20-MAR-2006 06:14	CHK	54.5000			
21-MAR-2006 06:37	CHK	54.0000			
22-MAR-2006 06:57	CHK	54.6000			
23-MAR-2006 07:27	CHK	55.3000			
24-MAR-2006 06:26	CHK	54.3000			
25-MAR-2006 08:51	CHK	54.8000			
26-MAR-2006 07:47	CHK	55.0000			
27-MAR-2006 06:23	CHK	54.8000			
28-MAR-2006 06:06	CHK	54.1000			
29-MAR-2006 07:10	CHK	54.5000			
30-MAR-2006 06:30	CHK	54.7000			
31-MAR-2006 06:07	CHK	53.3000			
3-APR-2006 05:47	CHK	53.6000			
4-APR-2006 06:58	CHK	53.6000			
5-APR-2006 06:05	CHK	54.4000			
6-APR-2006 06:54	CHK	55.2000			
7-APR-2006 05:32	CHK	56.2000			
10-APR-2006 06:09	CHK	50.1000	Bc Ac		
10-APR-2006 06:46	CHK	54.5000			
11-APR-2006 05:53	CHK	55.4000			
12-APR-2006 07:21	CHK	55.2000			

-- Multi-Test Full Report --

Description : QUAD 32D BETA %EFF

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.599998 Upper Bound : 55.700001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 53.184967 Std Deviation : 0.861438

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 05:56	CHK		52.9000		
2-MAR-2006 06:44	CHK		53.1000		
3-MAR-2006 06:44	CHK		53.1000		
6-MAR-2006 06:01	CHK		54.2000		
7-MAR-2006 06:06	CHK		53.9000		
8-MAR-2006 07:50	CHK		53.9000		

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

9-MAR-2006 06:58	CHK		54.2000		
10-MAR-2006 07:33	CHK		54.2000		
13-MAR-2006 06:57	CHK		52.8000		
14-MAR-2006 06:19	CHK		53.3000		
15-MAR-2006 06:33	CHK		54.5000		
16-MAR-2006 07:41	CHK		53.0000		
17-MAR-2006 07:24	CHK		53.2000		
18-MAR-2006 08:11	CHK		53.4000		
20-MAR-2006 06:14	CHK		53.0000		
21-MAR-2006 06:37	CHK		53.3000		
22-MAR-2006 06:57	CHK		52.7000		
23-MAR-2006 07:27	CHK		53.3000		
24-MAR-2006 06:26	CHK		52.7000		
25-MAR-2006 08:51	CHK		53.4000		
26-MAR-2006 07:47	CHK		52.5000		
27-MAR-2006 06:23	CHK		53.0000		
28-MAR-2006 06:06	CHK		52.7000		
29-MAR-2006 07:10	CHK		53.8000		
30-MAR-2006 06:30	CHK		53.1000		

31-MAR-2006 06:07	CHK	51.6000			
3-APR-2006 05:47	CHK	53.2000			
4-APR-2006 06:58	CHK	52.0000			
5-APR-2006 06:05	CHK	52.9000			
6-APR-2006 06:54	CHK	53.5000			
7-APR-2006 05:32	CHK	54.4000			
10-APR-2006 06:09	CHK	49.5000	Be Ac		
10-APR-2006 06:46	CHK	53.0000			
11-APR-2006 05:53	CHK	55.1000	In		
12-APR-2006 07:21	CHK	53.3000			

RADIUM 226

SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060342; RRA2267 Ra-226 by ASC-7
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

✓

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

✓

4.2 Were analysis volumes entered correctly? Yes No N/A

✓

4.3 Were Yields entered correctly? Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies? Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

✓

5.2 Are all required forms filled out? Yes No N/A

✓

5.3 Was the correct methodology used? Yes No N/A

✓

5.4 Was transcription checked? Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

✓

5.6 Are worksheet entries complete and correct? Yes No N/A

✓

6.0 Comments on any No response:

First Level Review

Pam Anderson

Date 4-12-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6060342

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sheryl A Adams Date: 4-12-06

STL RICHLAND

3/31/2006 10:49:49 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120403183

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech: 11:40 4/3/06 SH

Batch: 6060342 FILTER

pCi/sampI

PM, Quote: EJ, 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6060344, BXTF

Prep Tech: HansenM, HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AC J6B270158-1-SAMP	0.833sa	503.56sa	151.81g.in	0.2511g	RATA21346 03/29/06		G5	1623	4/3/2006 SH	
				7.6000 =						
				Ba-133 → 7.550 -						4-5-6M 13:30
				1.0066 -						4-10-6M 11:53
02/05/2006 06:00		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 1RH	Beta:	
2 HX81Q-1-AC J6B270158-2-SAMP	0.833sa	501.73sa	150.71g.in	0.2502g	RATA21347 03/31/06		G4	1623	4/3/06 SH	
				7.7280 =						
				7.050 -						4-5-6 M 13:30
				1.0962						4-10-6 M 11:51
02/05/2006 06:35		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 2RL	Beta:	
3 HX81R-1-AC J6B270158-3-SAMP	0.833sa	500.94sa	150.82g.in	0.2508g	RATA21348 03/31/06		G7	1624	4/3/06 SH	
				7.5875 =						
				8.736 -						4-5-6 M 13:30
				0.8685 -						4-10-6 M 11:51
02/05/2006 07:15		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 3MA	Beta:	
4 HX81T-1-AC J6B270158-4-SAMP	0.833sa	508.67sa	150.37g.in	0.2462g	RATA21349 03/31/06		G6	1656	4/3/06 SH	
				7.5574 =						
				7.405 -						4-5-6 M 13:30
				1.0206 -						4-10-6 M 11:50
02/05/2006 07:45		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 4HB	Beta:	

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Prep_SamplePrep v4.8.20

STL RICHLAND

1267

3/31/2006 10:49:50 AM

536403, Brown and Caldwell
Caldwell

Report Due: 03/31/2006

Batch: 6060342 FILTER

SEQ Batch, Test: 6060344, BXTF

Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

01 STANDARD TEST SET

Sample Preparation/Analysis





Balance Id:1120373922,1120373922,1120

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 HX81V-1-AC J6B270158-5-SAMP 	0.833sa	501.14sa	151.30g,in	0.2515g 7.4076 - 7.5448 8.227 - 0.9247	RATA21350 03/31/06		G8	1656	4/3/06 OK	4-5-6 M 13:30 4-10-6 M 11:50
02/05/2006 08:15		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 55A	Beta:	
6 HX81W-1-AC J6B270158-6-SAMP 	0.833sa	500.55sa	150.83g,in	0.251g 7.5574 = 7.058 - 1.0708 -	RATA21351 03/31/06		G4	1657	4/3/06 OK	4-5-6 M 13:30 4-10-6 M 11:51
02/05/2006 08:40		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 84B	Beta:	
7 HX81X-1-AC J6B270158-7-SAMP 	0.833sa	500.96sa	150.62g,in	0.2505g 7.5675 = 7.714 - 0.9810	RATA21352 03/31/06		G7	1657	4/3/06 OK	4-5-6 M 13:30 4-10-6 M 11:50
02/05/2006 06:10		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: 9RC	Beta:	
8 HX811-1-AC J6B270158-8-SAMP 	0.833sa	501.81sa	150.19g,in	0.2493g 7.6176 - 8.058 - 0.9453 -	RATA21353 03/31/06		G5	1657	4/3/06 OK	4-5-6 M 13:30 4-10-6 M 11:46
02/05/2006 06:15		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: BMA	Beta:	

STL Richland

Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktail Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 8

Prep_SamplePrep v4.8.20

STL RICHLAND

3/31/2006 10:49:51 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

Pipet #:

Report Due: 03/31/2006

01 STANDARD TEST SET

Sep1 DT/Tm Tech:





Batch: 6060342 FILTER
SEQ Batch, Test: 6060344, BXTF

pCi/sampl

PM, Quote: EJ, 63174

Sep2 DT/Tm Tech:

Prep Tech: HansenM,HaacksS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 HX812-1-AC J6B270158-9-SAMP 	0.833sa	507.36sa	151.06g,in	0.248g 7.5976 - 7.121 - 1.0669 -	RATA21354 03/31/06		G5	1738	4/3/06020	4-5-6M 13:50 4-10-6M 12:21
02/05/2006 06:05		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: CSA	Beta:	
10HX813-1-AC J6B270158-10-SAMP 	0.833sa	500.90sa	150.63g,in	0.2505g 7.5775 = 7.467 - 1.0148	RATA21355 03/31/06		G4	1738	4/3/06070	4-5-6M 13:50 4-10-6M 12:19
02/05/2006 06:40		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: DND	Beta:	
11HX814-1-AC J6B270158-11-SAMP 	0.833sa	502.44sa	150.65g,in	0.2498g 7.5474 = 8.386 - 0.9000	RATA21356 03/31/06		G7	1739	4/3/06070	4-5-6M 13:50 4-10-6M 12:20
02/05/2006 07:20		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: EHA	Beta:	
12HX815-1-AC J6B270158-12-SAMP 	0.833sa	501.00sa	151.27g,in	0.2515g 7.6076 = 7.901 - 0.9629 -	RATA21357 03/31/06		G6	1739	4/3/06020	4-5-6M 13:50 4-10-6M 12:21
02/05/2006 07:50		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha: GSB	Beta:	

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 12
Prep_SamplePrep v4.8.20

3/31/2006 10:49:51 AM

536403, Brown and Caldwell
Caldwell

, Brown &

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005

TE Ba-133 by Nai & Ra-226 by Alpha Scint 7 day ingrow

01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

Report Due: 03/31/2006

Batch: 6060342 FILTER

pCi/sampl

PM, Quote: EJ, 63174

SEQ Batch, Test: 6060344, BXTF

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13HX816-1-AC	0.833sa	505.04sa	150.54g,in	0.2483g	RATA21358 03/31/06		G8	1739	4/3/06 JTB	
J6B270158-13-SAMP				7.6277 = 8.701 - 0.8766					4-5-6 M 13:50 4-10-6 M 12:19	
02/05/2006 08:20			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:	Beta:	
14HX817-1-AC	0.833sa	501.67sa	150.12g,in	0.2493g	RATA21359 03/31/06		G4	1821	4/3/06 JTB	
J6B270158-14-SAMP				7.5875 = 7.283 - 1.0418					4-5-6 M 13:50 4-10-6 M 12:19	
02/05/2006 08:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:	Beta:	
15HX818-1-AC	0.833sa	501.09sa	150.95g,in	0.2509g	RATA21360 03/31/06		G7	1821	4/3/06 KMD	
J6B270158-15-SAMP				7.6076 = 7.959 - 0.9558					4-5-6 M 13:50 4-10-6 M 12:14	
02/05/2006 06:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:	Beta:	
16H0EQ5-1-AA-B		1.00sa,in	1.00sa		RATA21361 03/31/06		G8	1823	4/3/06 LMB	
J6C010000-342-BLK				7.5875 = 8.500 - 0.8926					4-5-6 M 13:50 4-10-6 M 12:19	
02/05/2006 06:00			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	
								PMA		

3/31/2006 10:49:52 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

BX Ra-226/228 PrpRC5016, SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Batch: 6060342

pCi/sampl

SEQ Batch, Test: None

Prep Tech: ,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
---------------------------------	--------------------	-------------------------	-----------------------------	--------------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

17H0EQ5-1-AC-C

1.00sa.in

1.00sa

RASC4036

03/13/06.pd

10/04/04.r

J6C010000-342-LCS

7.4306-

7.4571

0.9965

GL

1823

4/3/060P

4-5-6 M 14:30

4-10-6 M 12:44

02/05/2006 06:00

AmtRec:

#Containers: 1

Scr:

Alpha:

QMC

Beta:

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81N1AC-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H0EQ51AA-BLK:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:
H0EQ51AC-LCS:											
Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

HX81N1AC-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQ51AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0EQ51AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By

Date:

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 5

ISV - Insufficient Volume for Analysis

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 17

Prep. SamplePrep v4.8.20

4/11/2006 4:36:42 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/11/2005, 4/16/2006, Batch: '6060342', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060342				
AC	Cnt2C	HansenM	3/29/2006 2:05:30 PM	
SC		wagarr	IsBatched 3/1/2006 4:16:24 PM	ICOC_RADCALC v4.8.18
SC		HansenM	Prep2C 3/29/2006 2:05:30 PM	RICH-RC-5016 REVISION 5
SC		HaackS	InPrep 3/31/2006 8:19:03 AM	RICH-RC-5005 REVISION 4
SC		HaackS	Sep1C 4/3/2006 1:30:53 PM	RICH-RC-5005 REVISION 4
SC		WhitneyT	Sep1C 4/3/2006 1:32:45 PM	RICH-RC-5005 REVISION 4
SC		DAWKINSO	InCnt1 4/3/2006 1:49:56 PM	RICH-RD-0007 REVISION 5
SC		DAWKINSO	Cnt1C 4/3/2006 7:41:18 PM	RICH-RD-0007 REVISION 5
SC		TamosaitisM	InSep2 4/5/2006 1:28:38 PM	RICH-RC-5005 REVISION 5
SC		TamosaitisM	Cnt2C 4/10/2006 11:39:44 AM	RICH-RC-5005 REVISION 5
AC		HaackS	3/31/2006 8:19:03	
AC		HaackS	4/3/2006 1:30:53 PM	
AC		WhitneyT	4/3/2006 1:32:45 PM	
AC		DAWKINSO	4/3/2006 1:49:56 PM	
AC		DAWKINSO	4/3/2006 7:41:18 PM	
AC		TamosaitisM	4/5/2006 1:28:38 PM	
AC		TamosaitisM	4/10/2006 11:39:44	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/11/2006 4:36:42 PM

Rpt DB Transfer log (Batch Results)

SEVERN
TASIT STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Sample Date Units	Expected	Yield	Volumes
31025	9HX81110		J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.9486E-03	1.059E+00	1.059E+00 5.274E+00	PCI/SA	1.0	1.0E+0	2.052E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00 5.298E+00	PCI/SA	1.0	1.0E+0	3.405E-2
RA-226	BXTE	0	4/10/2006 2:46:00 PM	2.2347E-01	9.499E-02	9.757E-02 2.773E-01	PCI/SA	1.058	8.33E-1	2.493E-1
31025	9HX81210		J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM			
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.0284E+01	2.198E+00	2.444E+00 5.179E+00	PCI/SA	1.0	1.0E+0	2.07E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00 5.209E+00	PCI/SA	1.0	1.0E+0	3.295E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	-2.3959E-01	1.359E-01	1.382E-01 6.036E-01	PCI/SA	0.937	8.33E-1	2.48E-1
31025	9HX81310		J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM			
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	4.1731E+00	1.552E+00	1.612E+00 4.862E+00	PCI/SA	1.0	1.0E+0	2.08E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00 5.341E+00	PCI/SA	1.0	1.0E+0	3.367E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.6862E-01	1.056E-01	1.092E-01 3.078E-01	PCI/SA	0.985	8.33E-1	2.505E-1
31025	9HX81410		J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM			
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	6.8426E+00	1.932E+00	2.058E+00 5.45E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00 4.713E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE	0	4/10/2006 3:20:00 PM	3.0838E-01	1.419E-01	1.458E-01 4.564E-01	PCI/SA	1.111	8.33E-1	2.488E-1
31025	9HX81510		J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM			
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.6852E+01	2.628E+00	3.144E+00 5.103E+00	PCI/SA	1.0	1.0E+0	2.093E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00 5.06E+00	PCI/SA	1.0	1.0E+0	3.357E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	5.6304E-01	1.765E-01	1.864E-01 5.117E-01	PCI/SA	1.039	8.33E-1	2.515E-1
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM			
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	9.3614E+00	2.111E+00	2.319E+00 4.967E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00 5.184E+00	PCI/SA	1.0	1.0E+0	3.3E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.0856E+00	2.48E-01	3.317E-01 4.022E-01	PCI/SA	1.141	8.33E-1	2.483E-1
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM			
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	1.0892E+01	2.232E+00	2.504E+00 5.119E+00	PCI/SA	1.0	1.0E+0	2.095E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00 5.291E+00	PCI/SA	1.0	1.0E+0	3.384E-2
RA-226	BXTE	0	4/10/2006 3:19:03 PM	1.1391E-01	1.07E-01	1.077E-01 3.869E-01	PCI/SA	0.96	8.33E-1	2.493E-1
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM			
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	-8.6245E-01	7.724E-01	7.776E-01 4.857E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00 5.36E+00	PCI/SA	1.0	1.0E+0	3.447E-2
RA-226	BXTE	0	4/10/2006 3:14:00 PM	1.1151E-01	8.896E-02	8.966E-02 3.131E-01	PCI/SA	1.046	8.33E-1	2.509E-1
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM			
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.1099E+00	1.514E+00	1.53E+00 5.957E+00	PCI/SA	1.0	1.0E+0	2.091E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00 5.408E+00	PCI/SA	1.0	1.0E+0	3.278E-2
RA-226	BXTE	0	4/10/2006 2:53:00 PM	2.6364E-01	1.546E-01	1.569E-01 5.224E-01	PCI/SA	0.993	8.33E-1	2.511E-1
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM			
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.9199E+00	1.605E+00	1.632E+00 5.973E+00	PCI/SA	1.0	1.0E+0	2.082E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00 5.034E+00	PCI/SA	1.0	1.0E+0	3.315E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	-2.2718E-01	1.371E-01	1.391E-01 6.167E-01	PCI/SA	0.912	8.33E-1	2.502E-1
31025	9HX81R10		J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM			
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	4.8606E+00	1.709E+00	1.78E+00 5.252E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00 5.53E+00	PCI/SA	1.0	1.0E+0	3.319E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	1.0827E-01	8.15E-02	8.232E-02 2.838E-01	PCI/SA	1.151	8.33E-1	2.508E-1
31025	9HX81T10		J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.6327E+00	2.24E+00	2.454E+00 5.858E+00	PCI/SA	1.0	1.0E+0	2.052E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00 5.406E+00	PCI/SA	1.0	1.0E+0	3.204E-2
RA-226	BXTE	0	4/10/2006 2:50:01 PM	2.633E-01	2.287E-01	2.305E-01 8.009E-01	PCI/SA	0.98	8.33E-1	2.462E-1
31025	9HX81V10		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.0898E+00	2.055E+00	2.261E+00 4.93E+00	PCI/SA	1.0	1.0E+0	2.066E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.6437E+01	1.736E+00	2.071E+00 5.472E+00	PCI/SA	1.0	1.0E+0	3.311E-2
RA-226	BXTE	0	4/10/2006 2:50:03 PM	1.4068E-01	1.354E-01	1.363E-01 4.886E-01	PCI/SA	1.081	8.33E-1	2.515E-1

6060342, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qlms => .

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Sample Date Units	Expected Yield	Volumes
31025	9HX81W10		J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	6.5328E+00	1.979E+00	2.091E+00	5.942E+00	PCI/SA	1.0 1.0E+0 2.095E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00	5.064E+00	PCI/SA	1.0 1.0E+0 3.342E-2
RA-226	BXTE	0	4/10/2006 2:51:01 PM	2.3557E+00	2.987E-01	3.921E-01	7.098E-01	PCI/SA	0.934 8.33E-1 2.51E-1
31025	9HX81X10		J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	2.9152E+00	1.602E+00	1.63E+00	5.964E+00	PCI/SA	1.0 1.0E+0 2.083E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00	5.916E+00	PCI/SA	1.0 1.0E+0 3.372E-2
RA-226	BXTE	0	4/10/2006 2:50:00 PM	-1.184E-01	1.327E-01	1.332E-01	5.743E-01	PCI/SA	1.019 8.33E-1 2.505E-1
31025	H0EQ51AB		J6C010000342	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
RA-226	BXTE	0 B	4/10/2006 3:19:01 PM	-4.4559E-02	2.882E-02	2.917E-02	1.319E-01	PCI/SA	1.12 1.0E+0 1.0E+0
31025	H0EQ51CS		J6C010000342	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
RA-226	BXTE	0 S	4/10/2006 3:44:00 PM	1.4021E+00	1.0E-01	1.829E-01	1.384E-01	PCI/SA	1.3862E+00 1.004 1.0E+0 1.0E+0

6060342, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt.											
Calc	TE	AIR	HX81N1AC	RA-226	2.64E-01	(1.57E-01)		PCI/SA	R	2.33E-01	5.22E-01 <i>CRDL met</i>		99%	
Calc	TE	AIR	HX81Q1AC	RA-226	-2.27E-01	(1.39E-01)	U4	PCI/SA	R	2.72E-01	6.17E-01		91%	
Calc	TE	AIR	HX81R1AC	RA-226	1.08E-01	(8.23E-02)	U4	PCI/SA	R	1.13E-01	2.84E-01		115%	
Calc	TE	AIR	HX81T1AC	RA-226	2.63E-01	(2.31E-01)	U4	PCI/SA	R	3.69E-01	8.01E-01		98%	
Calc	TE	AIR	HX81V1AC	RA-226	1.41E-01	(1.36E-01)	U4	PCI/SA	R	2.05E-01	4.89E-01		108%	
Calc	TE	AIR	HX81W1AC	RA-226	2.36E+00	(3.92E-01)		PCI/SA	R	3.24E-01	7.10E-01		93%	
Calc	TE	AIR	HX81X1AC	RA-226	-1.18E-01	(1.33E-01)	U4	PCI/SA	R	2.49E-01	5.74E-01		102%	
Calc	TE	AIR	HX8111AC	RA-226	2.23E-01	(9.76E-02)		PCI/SA	R	1.08E-01	2.77E-01		106%	
Calc	TE	AIR	HX8121AC	RA-226	-2.40E-01	(1.38E-01)	U4	PCI/SA	R	2.68E-01	6.04E-01		94%	
Calc	TE	AIR	HX8131AC	RA-226	2.69E-01	(1.09E-01)		PCI/SA	R	1.24E-01	3.08E-01		99%	
Calc	TE	AIR	HX8141AC	RA-226	3.08E-01	(1.46E-01)		PCI/SA	R	1.98E-01	4.56E-01		111%	
Calc	TE	AIR	HX8151AC	RA-226	5.63E-01	(1.86E-01)		PCI/SA	R	2.21E-01	5.12E-01		104%	
Calc	TE	AIR	HX8161AC	RA-226	2.09E+00	(3.32E-01)		PCI/SA	R	1.67E-01	4.02E-01		114%	
Calc	TE	AIR	HX8171AC	RA-226	1.14E-01	(1.08E-01)	U4	PCI/SA	R	1.58E-01	3.87E-01		96%	
Calc	TE	AIR	HX8181AC	RA-226	1.12E-01	(8.97E-02)	U4	PCI/SA	R	1.29E-01	3.13E-01		105%	
Calc	TE	AIR	H0EQ51AA	RA-226	-4.46E-02	(2.92E-02)	U4	PCI/SA	R	5.74E-02	1.32E-01	B	112%	
Calc	TE	AIR	H0EQ51AC	RA-226	1.40E+00	(1.83E-01)		PCI/SA	R	6.08E-02	1.38E-01	S	100%	103%

P. Anderson
4-11-06

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC - Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17
 RADCALC v4.8.21
 STL Richland

Batch Nbr: 6060342

Alpha Beta, Ra-226 by ASC-7 , Calculated Results
Detailed Report

4/11/2006 4:21:05 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	TE	AIR	*STLE	Ra226WoBS	HX81N1AC	PCI/SA		02/05/06 06:00	04/10/06 14:53	04/05/06 13:30	RATA21346	1	0.833 Sa				
CID:P 0510LOT:J6B2701581 v4.8.21																		
							AIR				04/10/06 11:53	RATA21346 Alq	99%	0.251127 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:53	RA-226	35	27	ASC1RH	ASC		N	2.4727E+00	1.0000E+00	N	99%	✓	N	1.7337E+00	4.5045E-01	1.0001E+00	
			50	60	①		Y		(3.338E-02)	(0.000E+00)		8%			(0.000E+00)	3.317041		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	0.263644		2.50000E-01	0.176437	0.176437	0.833 Sa	99%			0.522372					
				(0.156851)		(1.4863E-01)	(0.104468)	(0.104468)	(0.024495)				0.232745					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	TE	AIR	*STLE	Ra226WoBS	HX81Q1AC	PCI/SA		02/05/06 06:35	04/10/06 14:51	04/05/06 13:30	RATA21347	1	0.833 Sa				
CID:P 0511LOT:J6B2701582 v4.8.21																		
							AIR				04/10/06 11:51	RATA21347 Alq	91%	0.250217 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:51	RA-226	10	22	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	91%	✓	N	1.7340E+00	4.5045E-01	1.0001E+00	
			50	60	②		Y		(6.818E-02)	(0.000E+00)		7%			(0.000E+00)	3.329109		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	-0.227182		U4 -1.66667E-01	-0.151484	-0.151484	0.833 Sa	91%			0.616665					
				(0.139088)		(1.0055E-01)	(0.092326)	(0.092326)	(0.024495)				0.271554					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
3	Calc	TE	AIR	*STLE	Ra226WoBS	HX81R1AC	PCI/SA		02/05/06 07:15	04/10/06 14:51	04/05/06 13:30	RATA21348	1	0.833 Sa				
CID:P 0512LOT:J6B2701583 v4.8.21																		
							AIR				04/10/06 11:51	RATA21348 Alq	115%	0.250795 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:51	RA-226	10	6	ASC3MA	ASC		N	2.3964E+00	1.0000E+00	N	115%	✓	N	1.7340E+00	4.5045E-01	1.0001E+00	
			50	60	③		Y		(9.873E-02)	(0.000E+00)		9%			(0.000E+00)	3.321443		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	0.108268		U4 1.00000E-01	0.07236	0.07236	0.833 Sa	115%			0.283829					
				(0.082321)		(7.5277E-02)	(0.054858)	(0.054858)	(0.024495)				0.112641					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	TE	AIR	*STLE	Ra226WoBS	HX81T1AC	PCI/SA		02/05/06 07:45	04/10/06 14:50	04/05/06 13:30	RATA21349	1	0.833 Sa				
CID:P 0513LOT:J6B2701584 v4.8.21																		
							AIR				04/10/06 11:50	RATA21349 Alq	98%	0.246247 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:50	RA-226	58	56	ASC4HB	ASC		N	2.3219E+00	1.0000E+00	N	98%	N		1.7341E+00	4.5045E-01	1.0001E+00	
			50	60	④		Y		(1.182E-01)	(0.000E+00)		8%			(0.000E+00)	3.382789		

Batch Nbr: 6060342

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

4/11/2006 4:21:05 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	0.263297 (0.230543)	U4	2.26667E-01 (1.9686E-01)	0.17278 (0.150954)	0.17278 (0.150954)	0.833 Sa (0.024495)	98%		0.800938 0.369209						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
5	Calc	TE	AIR	*STLE	Ra226WoBS	HX81V1AC	PCI/SA		02/05/06 08:15	04/10/06 14:50	04/05/06 13:30 04/10/06 11:50	RATA21350 RATA21350 Alq	1 108%	0.833 Sa 0.251492 Sa				
CID:P 0514LOT:J6B2701585 v4.8.21																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:50	RA-226	14	11	ASC5SA	ASC		N	1.7780E+00	1.0000E+00	N	108%	N		1.7342E+00	4.5045E-01	1.0001E+00	
			50	60	5		Y		(8.943E-02)	(0.000E+00)		9%			(0.000E+00)	3.312227		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	0.140679 (0.13629)	U4	9.66667E-02 (9.3035E-02)	0.094283 (0.091177)	0.094283 (0.091177)	0.833 Sa (0.024495)	108%		0.488648 0.205007						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	TE	AIR	*STLE	Ra226WoBS	HX81W1AC	PCI/SA		02/05/06 08:40	04/10/06 14:51	04/05/06 13:30 04/10/06 11:51	RATA21351 RATA21351 Alq	1 93%	0.833 Sa 0.251007 Sa				
CID:P 0515LOT:J6B2701586 v4.8.21																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:51	RA-226	141	45	ASC8HB	ASC		N	2.4391E+00	1.0000E+00	N	93%	N		1.7340E+00	4.5045E-01	1.0001E+00	
			50	60	8		Y		(1.054E-01)	(0.000E+00)		7%			(0.000E+00)	3.318637		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	2.35573 (0.392147)		2.07000E+00 (2.6249E-01)	1.575755 (0.245868)	1.575755 (0.245868)	0.833 Sa (0.024495)	93%		0.709799 0.324251						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
7	Calc	TE	AIR	*STLE	Ra226WoBS	HX81X1AC	PCI/SA		02/05/06 06:10	04/10/06 14:50	04/05/06 13:30 04/10/06 11:50	RATA21352 RATA21352 Alq	1 102%	0.833 Sa 0.250452 Sa				
CID:P 0516LOT:J6B2701587 v4.8.21																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 14:50	RA-226	10	17	ASC9RC	ASC		N	1.8288E+00	1.0000E+00	N	102%	N		1.7341E+00	4.5045E-01	1.0001E+00	
			50	60	9		Y		(5.139E-02)	(0.000E+00)		8%			(0.000E+00)	3.325986		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/11/06	RA-226	R	-0.118398 (0.133247)	U4	-8.33333E-02 (9.3393E-02)	-0.079022 (0.088814)	-0.079022 (0.088814)	0.833 Sa (0.024495)	102%		0.574335 0.248812						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
8	Calc	TE	AIR	*STLE	Ra226WoBS	HX8111AC	PCI/SA		02/05/06 06:15	04/10/06 14:46	04/05/06 13:30 04/10/06 11:46	RATA21353 RATA21353 Alq	1 106%	0.833 Sa 0.249314 Sa				
CID:P 0517LOT:J6B2701588 v4.8.21																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

1277

Batch Nbr: 6060342

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

4/11/2006 4:21:06 PM

[illegible]

Batch Nbr: 6060342

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

4/11/2006 4:21:06 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	AIR	*STLE	Ra226WoBS	HX8151AC	PCI/SA		02/05/06 07:50	04/10/06 15:21	04/05/06 13:50	RATA21357	1	0.833 Sa	
CID:000360LOT:J6B27015812 v4.8.21															
AIR															
04/10/06 15:21	RA-226	35	16	ASC	GB	ASC		N	1.9894E+00	1.0000E+00	N	104%	N	1.7325E+00	4.5045E-01
50	60							Y	(7.938E-02)	(0.000E+00)		8%		(0.000E+00)	3.311959
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdC/LcC	
04/11/06	RA-226	R	0.563036			4.33333E-01	0.377376	0.377376	0.833 Sa	104%		0.511654			
			(0.186382)			(1.3581E-01)	(0.12299)	(0.12299)	(0.024495)			0.220747			
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TE	AIR	*STLE	Ra226WoBS	HX8161AC	PCI/SA		02/05/06 08:20	04/10/06 15:19	04/05/06 13:50	RATA21358	1	0.833 Sa	
CID:000361LOT:J6B27015813 v4.8.21															
AIR															
04/10/06 15:19	RA-226	92	10	ASC	GB	ASC		N	2.1011E+00	1.0000E+00	N	114%	N	1.7328E+00	4.5045E-01
50	60							Y	(7.837E-02)	(0.000E+00)		9%		(0.000E+00)	3.354856
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdC/LcC	
04/11/06	RA-226	R	2.085554			1.67333E+00	1.379973	1.379973	0.833 Sa	114%		0.402156			
			(0.331667)			(1.9894E-01)	(0.204338)	(0.204338)	(0.024495)			0.167401			
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TE	AIR	*STLE	Ra226WoBS	HX8171AC	PCI/SA		02/05/06 08:45	04/10/06 15:19	04/05/06 13:50	RATA21359	1	0.833 Sa	
CID:000362LOT:J6B27015814 v4.8.21															
AIR															
04/10/06 15:19	RA-226	11	8	ASC	KMD	ASC		N	2.0676E+00	1.0000E+00	N	96%	N	1.7328E+00	4.5045E-01
50	60							Y	(9.676E-02)	(0.000E+00)		8%		(0.000E+00)	3.341793
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdC/LcC	
04/11/06	RA-226	R	0.113915			8.66667E-02	0.07567	0.07567	0.833 Sa	96%		0.386861			
			(0.107685)			(8.1377E-02)	(0.071397)	(0.071397)	(0.024495)			0.157904			
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TE	AIR	*STLE	Ra226WoBS	HX8181AC	PCI/SA		02/05/06 06:45	04/10/06 15:14	04/05/06 13:50	RATA21360	1	0.833 Sa	
CID:000363LOT:J6B27015815 v4.8.21															
AIR															
04/10/06 15:14	RA-226	13	9	ASC	LMB	ASC		N	2.5572E+00	1.0000E+00	N	105%	N	1.7335E+00	4.5045E-01
50	60							Y	(5.191E-02)	(0.000E+00)		8%		(0.000E+00)	3.319576

Batch Nbr: 6060342

Alpha Beta, Ra-226 by ASC-7, Calculated Results

4/11/2006 4:21:06 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/11/06	RA-226	R	0.111511 (0.089664)	U4	1.10000E-01 (8.7750E-02)	0.074569 (0.059803)	0.074569 (0.059803)	0.833 Sa (0.024495)	105%			0.313134 0.129172					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
16	Calc	TE	AIR	*STLE	Ra226WoBS	H0EQ51AA	PCI/SA	B	02/05/06 06:00	04/10/06 15:19	04/05/06 13:50	RATA21361	1	1.00 Sa				
CID:INTRA-LAB BLANKLOT:J6C010000342 v4.8.21																		
							AIR				04/10/06 12:19	RATA21361 Alq	112%	1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 15:19	RA-226	8	18	ASCPMA	ASC		N	2.4525E+00	1.0000E+00	N	112%	N		1.7328E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(8.241E-02)	(0.000E+00)		9%			(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/11/06	RA-226	R	-0.044559 (0.029175)	U4	-1.40000E-01 (9.0554E-02)	-0.098914 (0.064552)	-0.098914 (0.064552)	1.00 Sa (0.017321)	112%			0.13189 0.057354					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
17	Calc	TE	AIR	*STLE	Ra226WoBS	H0EQ51AC	PCI/SA	S	02/05/06 06:00	04/10/06 15:44	04/05/06 14:30	RASC4036	1	1.00 Sa				
CID:INTRA-LAB CHECKLOT:J6C010000342 v4.8.21																		
							AIR				04/10/06 12:44	RASC4036 Alq	100%	1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	04/10/06 15:44	RA-226	242	21	ASCOMQ	ASC		N	2.5030E+00	1.0000E+00	N	100%	N		1.7351E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(1.307E-01)	(0.000E+00)		8%			(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/11/06	RA-226	R	1.402085 (0.182894)		4.49000E+00 (3.2036E-01)	3.112413 (0.371093)	3.112413 (0.371093)	1.00 Sa (0.017321)	100%	103%		0.138412 0.06078					

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 5

RecCnt:17

RADCALC v4.8.21

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

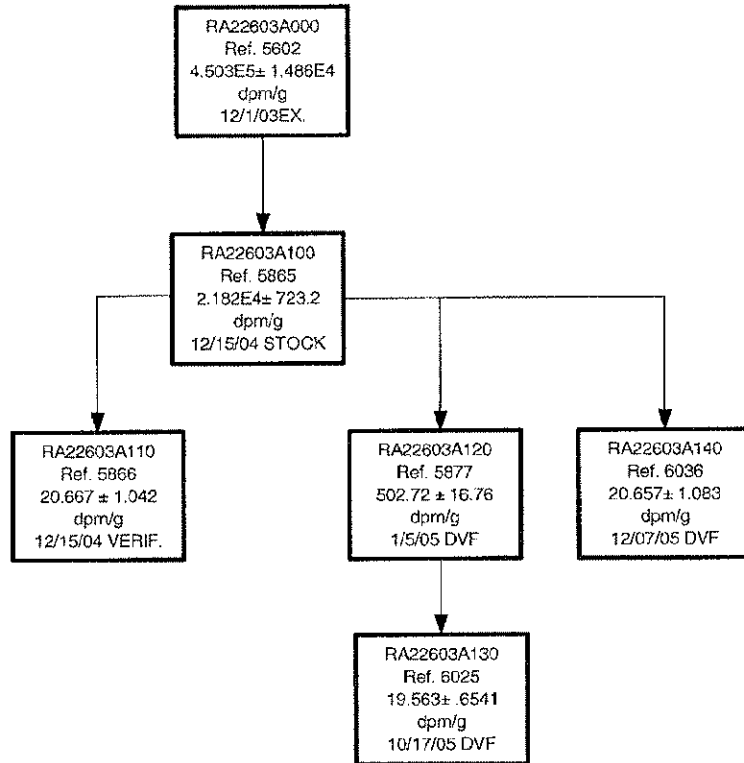
STL Richland

RADIUM 226

STANDARDS AND TRACEABILITY

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22603A140		Ref: 12/15/2004	2.0657E+01	± 5.242E+00	DPM/G	
RASC4036	RA-226	3.0329E+00 ± 7.696E-01 DPM	0.1469 g	3/13/2006 3/13/2006	Armstron	2.0646E+01 ± 5.239E+00 DPM/G
		3.0329E+000 ± 3.033E+000 (1)	3.0329E+000 , 3.0329E+000			

RA22603A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>12/7/2005</u>
3) Source Identification Number / Ref. Number		<u>RA22603A100</u>	<u>5865</u>
4) Source Activity (dpm \pm dpm/g)	<u>2.1810E+04</u>	\pm	<u>7.229E+02</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>0.1184</u>		
7) (% Error) of Weight of Source Material used	<u>4.0541</u>	%	
8) Diluent	<u>1 M HCL</u>		
9) Total Weight of the Dilution (g)	<u>125.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2400</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.0657E+01</u>	\pm	<u>1.083E+00</u>
12) Total Uncertainty	<u>5.242</u>	%	
13) Dilution Identification Number / Ref. Number		<u>RA22603A140</u>	<u>6036</u>
14) Calibration Reference Date	<u>12/7/2005</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>12/7/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/17/2006</u>
17) Location	<u></u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3



ANALYTICS

#5602
Rec'd
12/3/98

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 • U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

67269-310

Ra-226 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

Analytix maintains traceability to the National Institute of Standards and Technology through participation in a Measurements Assurance Program as described in USNRC Reg. Guide 4.15, Revision 1, February 1979.

ISOTOPE:	Ra-226
ACTIVITY (dps):	3.753 E4
HALF-LIFE:	1.600 E3 years
CALIBRATION DATE:	December 1, 2003 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ -impurities <0.1% (other than decay products)

5.00107 grams 0.1M HCl solution with 50 $\mu\text{g/g}$ Ba carrier.

Master solution ID#: P8V83.

P O NUMBER 2036005/300260, Item 1

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

M. Taskaeva 12-4-03

ISOTOPE RECORD FORM

1) Isotope Ra-226 2) Reference Number 5601
 3) Half Life 1600 yrs. 4) Storage Location STLB
 5) Source Identification Number Ra22603A000

CALIBRATION DATA

6) Activity as Received Units 3.753E4 dps
 7) Overall Uncertainty Percent 3.3%
 8) Reference Date / Time 12/1/03 12:00 EST (9:00AM)
 9) Activity dpm/g 4.5026E5 ± 14859E4 dpm/g
 10) Volume or Mass (ml/g) 5.00107g
 11) Calibrated by ANALYTICS
 12) Certificate Solution Number 67269-310

SURVEY DATA

13) Date Received 12/8/2003
 14) Surveyed by W.G
 15) Survey Reading (Beta/Gamma) cpm <1K
 16) Survey Reading (Alpha) cpm <BKG

17) Activity Conversion 3.753E+4dpsx60s/m/5.00107g= 4.503E+5 ± 1.49E+04 dpm/g

18) Remarks _____

19) Isotope File Updated by WG.12/11/03

20) QC Approved GE 12/16/03

RA22603C000

RA22603A000
Ref. 5602
4.503E5± 1.486E4
dpm/g
12/1/03

12/11/2003 7:58:06 AM

Standard Materials

Std Rec : 7/25/76 to 12/12/03, SMIdentifier Like: RA22603A000%, *All Suppliers , Excluding Consumed Std , Order by SMIdentifier

SM Identifier	SM Identifier2	Quantity	Density	Store Loc	Supplier	Supplier Id and Lot	Rec Date	Ref Date
RA22603A000	5602	5.00107 g		PM	ANAL (L)	67269-310	12/8/2003	12/1/2003
	RA-226	4.5026E+05 \pm 1.486E+04 DPM/G				Decayed Activity: 4.5026E+05 \pm 1.486E+04		
Total Activity: 2.2518E+006 DPM								



STL

ISOTOPE RECORD FORM

1) Isotope R9226 2) Reference Number #5602
3) Half Life 1.600×10^3 yrs 4) Storage Location QCLab
5) Source Identification Number R922603A000

CALIBRATION DATA

6) Activity as Received Units $3.753 \text{E}4$ dps
7) Overall Uncertainty Percent 3.3%
8) Reference Date / Time 12/1/03 12:00 EST (9:00 AM)
9) Activity dpm/g $4.5026 \times 10^5 \pm 1.4859 \times 10^4$ dpm/g
10) Volume or Mass (mL / g) 5.00107g
11) Calibrated by Analytic
12) Certificate Solution Number 67269-310

SURVEY DATA

13) Date Received 12/8/3
14) Surveyed by WA
15) Survey reading (Beta/Gamma) cpm <1K
16) Survey Reading (Alpha) cpm <0KG

17) Activity Conversion $37530.0 \text{ dps} \times 60 \text{ s/m} / 5.00107 \text{g} =$
 $450263.6436 \pm 14858.70024$ dpm/g

18) Remarks _____

19) Isotope File Updated by WA 12/11/3

20) QC Approved _____



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318-U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

Rec'd 12/8/34

SHIPPER'S DECLARATION

Shipment number 20736-11747 contains the following isotopes:

FORM: LIQUID

<u>RADIONUCLIDE</u>	<u>QUANTITY IN MICROCURIES*</u>
Ra-226	1.01
TOTAL:	1.01

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material, excepted package-limited quantity of material, UN2910.

SHIPPED TO: SEVERN TRENT LABS
STL RICHLAND

DATE: 12-4-03
TE Kosh

*Quantities stated are approximate and for shipping purposes only. For certified quantities see Certificate of Calibration for each radioactive standard.



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318-U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

PACKING LIST

SEVERN TRENT LABORATORIES

STL RICHLAND

2800 GEORGE WASHINGTON WAY

RICHLAND WA 99352-1613

ATTN:

FOR:

LINE QTY
NUMBER SHIP

ORDER # 011747
SHIPPING DATE 12-4-03
SHIPMENT NO. 20736-11747
P. O. NUMBER 2036005/300260
REQ/RELEASE NO.

BOX 1 OF 1

DESCRIPTION

LINE	QTY	DESCRIPTION
01	1	SRS 67269-310 RA-226 5 ML LIQUID IN FLAME SEALED VIAL CALIBRATION STANDARD, 1.01 UCI 0.1M HCL SOLUTION ***STOCK***

1 CALIBRATION CERTIFICATES ARE ENCLOSED IN THIS BOX TK

LIMITED WARRANTY

ANALYTICS warrants that at the time of shipment the products sold by it are free from defects in material and workmanship and conform to specifications, which accompany the product. ANALYTICS makes no other warranty, expressed or implied, with respect to the products, including any warranty of merchantability or fitness for any particular purpose. Complaints of breach of warranty on radioactive products must be received in writing by ANALYTICS within two half-lives of the radioactive material or 30 days, whichever first occurs. The maximum liability for any breach of warranty shall be replacement of the product or refund of the invoice price of the product. ANALYTICS shall in no case be liable for special, incidental or consequential damages of any kind.



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 - U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

Important MSDS Information Enclosed

Ra-226 Radioactive Liquid Calibration Standard

Enclosed is the Material Safety Data Sheet (MSDS) for the item above which meets the OSHA Hazard Communication Standard criteria. The ingredients are:

	Radioactive Nuclides
MSDS-1002	Hydrochloric Acid (not more than 24%)

This information provides conservative chemical safety guidelines for handling the pure forms of the ingredients.

The hazards of radioactivity are regulated by the U.S. Nuclear Regulatory Commission under Title 10, parts 19, 20, 30, 31 and 35 of the Code of Federal Regulations. The hazards of radioactivity are not addressed in the enclosed safety information.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: MSDS-1002

MATERIAL IDENTIFICATION: RADIOACTIVE MATERIAL IN HYDROCHLORIC ACID SOLUTION
(NOT MORE THAN 24%)

REVISION DATE: APRIL 1, 1999

ANALYTICS, INC.
1380 SEABOARD IND. BLVD.
ATLANTA, GEORGIA 30318
404-352-8677

EMERGENCY NUMBERS:
CHEM-TEL 800-255-3924 (US)
813-248-0585 (INT'L) (call collect)

THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

SUBSTANCE: HYDROCHLORIC ACID SOLUTION

TRADE NAME & SYNONYMS: CHLORHYDRIC ACID, HYDRO CHLORIDE, MURIATIC ACID

DOT SHIPPING NAME: HYDROCHLORIC ACID (NOT MORE THAN 24%)

FORMULA: HCl

CHEMICAL FAMILY: INORGANIC ACID

COMPONENT:	PERCENT:	OSHA PEL	ACGIH TLV
HYDROCHLORIC ACID	0.04% - 24%	5 PPM	N/A

NFPA RATINGS: HEALTH=3 FIRE=0 REACTIVITY=1

CAUTION: CONTAINS RADIOACTIVE MATERIAL WHICH, ALTHOUGH BEYOND THE SCOPE OF MSDS REQUIREMENTS, SHOULD BE CONSIDERED THE PRINCIPAL HAZARD. THIS MATERIAL SHOULD BE HANDLED ONLY BY TRAINED INDIVIDUALS IN CONFORMANCE WITH 10 CFR REQUIREMENTS.

PHYSICAL/CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR: CLEAR, COLORLESS SOLUTION WITH PUNGENT ODOR

BOILING POINT: 100 C. TO 109 C

SPECIFIC GRAVITY: 1.00 TO 1.18

VAPOR PRESSURE: 3,040 mm Hg @ 17.8 C

MELTING POINT: N/A

VAPOR DENSITY (AIR): APPROX. 1.2

EVAPORATION RATE: 1

SOLUBILITY IN WATER: INFINITE pH: 0+ TO 3.0

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A AUTO IGNITION TEMP.: N/A FLAMMABLE LIMITS: N/A

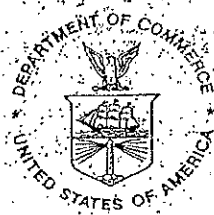
LEL: N/A

UEL: N/A

EXTINGUISHABLE MEDIA: WATER SPRAY

FIRE FIGHTING: FULL PROTECTIVE CLOTHING AND NIOSH APPROVED POSITIVE PRESSURE SCBA SHOULD BE WORN.

UNUSUAL FIRE AND EXPLOSION HAZARDS: **CAUTION.** MAY PRODUCE AIRBORNE RADIOACTIVE MATERIALS DURING FIRE. CONSULT HEALTH PHYSICS/RADIATION SAFETY STAFF.



U.S. DEPARTMENT OF COMMERCE
National Institute of Standards & Technology
Gaithersburg, MD 20899

Certificate of Participation

Analytics, Incorporated
Atlanta, Georgia

is a participant for the period January 1, 2003, through December 31, 2003, in a radioactivity measurements assurance program conducted by the National Institute of Standards and Technology, in cooperation with the Nuclear Energy Institute. Continued participation is evidenced by dated Reports of Traceability issued for particular radionuclides, which indicate the deviation of the participant's reported value from that measured by the National Institute of Standards and Technology. The significance of these Reports is addressed on the back of this certificate.

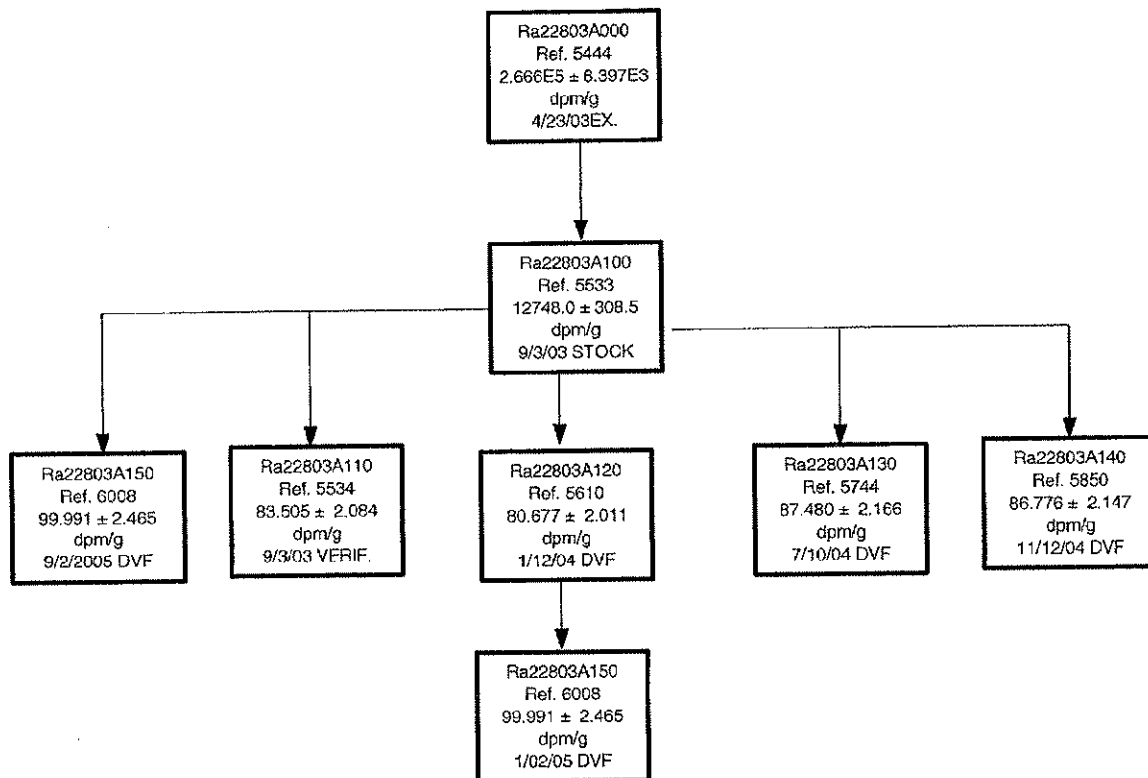
For the Director,

A handwritten signature in cursive script, appearing to read "Lisa R. Karam".

Lisa R. Karam, Group Leader
Radioactivity Group
Physics Laboratory
(over)

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22803A150		Ref: 9/2/2005	9.9991E+01	± 2.466E+00	DPM/G	
RASC4036	RA-228	1.1179E+01 ± 2.760E-01 DPM	0.1191 g	3/13/2006 3/13/2006	Armstron	9.3859E+01 ± 2.315E+00 DPM/G
		1.1179E+001 ± 1.118E+001 (1)	1.1179E+001 , 1.1179E+001			

Ra22803A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>9/2/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.0020E+04</u>	\pm	<u>2.426E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>1.1976</u>		
7) (% Error) of Weight of Source Material used	<u>0.4008</u>	%	
8) Diluent	<u>1 M TM HCL</u>		
9) Total Weight of the Dilution (g)	<u>120.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2500</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>9.9991E+01</u>	\pm	<u>2.465E+00</u>
12) Total Uncertainty	<u>2.466</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A150</u>	<u>6008</u>	
14) Calibration Reference Date	<u>9/2/2005</u>		
15) Isotope Inventory File update by/date	<u>TDA</u>	<u>9/2/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/13/2005</u>	
17) Location <u>QCLAB</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>9/2/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.0020E+04</u>	±	<u>2.426E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>1.1976</u>		
7) (% Error) of Weight of Source Material used	<u>0.4008</u>	%	
8) Diluent	<u>1 M TM HCL</u>		
9) Total Weight of the Dilution (g)	<u>120.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2500</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>9.9991E+01</u>	±	<u>2.465E+00</u>
12) Total Uncertainty	<u>2.466</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A150</u>	<u>6008</u>	
14) Calibration Reference Date	<u>9/2/2005</u>		
15) Isotope Inventory File update by/date	<u>TDA</u>	<u>9/2/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/13/2005</u>	
17) Location <u>QCLAB</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>11/12/2004</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.1068E+04</u>	±	<u>2.678E+02</u>
5) Percent error of Source Activity	<u>2.420</u>	%	
6) Weight of Source Material used (g)	<u>1.0426</u>		
7) (% Error) of Weight of Source Material used	<u>0.4604</u>	%	
8) Diluent	<u>1M HCL-P0400341</u>		
9) Total Weight of the Dilution (g)	<u>132.98</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2256</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.6776E+01</u>	±	<u>2.147E+00</u>
12) Total Uncertainty	<u>2.474</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A140</u>	<u>5850</u>	
14) Calibration Reference Date	<u>11/12/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>11/12/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>11/12/2004</u>	
17) Location <u>QCLAB/STWT1077</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>7/10/2004</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.1506E+04</u>	±	<u>2.785E+02</u>
5) Percent error of Source Activity	<u>2.420</u>	%	
6) Weight of Source Material used (g)	<u>1.0166</u>		
7) (% Error) of Weight of Source Material used	<u>0.4722</u>	%	
8) Diluent	<u>1M HCL-P0400341</u>		
9) Total Weight of the Dilution (g)	<u>133.71</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2244</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.7480E+01</u>	±	<u>2.166E+00</u>
12) Total Uncertainty	<u>2.476</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A130</u>	<u>5744</u>	
14) Calibration Reference Date	<u>7/10/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>7/10/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>7/13/2004</u>	
17) Location <u>QCLAB/STWT1015</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>1/12/2004</u>
3) Source Identification Number / Ref. Number		<u>RA22803A100</u>	<u>5533</u>
4) Source Activity (dpm \pm dpm/g)	<u>1.2209E+04</u>	\pm	<u>2.955E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>0.8710</u>		
7) (% Error) of Weight of Source Material used	<u>0.5511</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>131.81</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2276</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.0677E+01</u>	\pm	<u>2.011E+00</u>
12) Total Uncertainty	<u>2.482</u>	%	
13) Dilution Identification Number / Ref. Number		<u>RA22803A120</u>	<u>5610</u>
14) Calibration Reference Date	<u>1/12/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>1/12/2004</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/15/2004</u>
17) Location	<u>QCLAB/STWT0897</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/3/2003</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.2748E+04</u>	\pm	<u>3.085E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>0.8494</u>		
7) (% Error) of Weight of Source Material used	<u>0.5651</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>129.67</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2314</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.3505E+01</u>	\pm	<u>2.084E+00</u>
12) Total Uncertainty	<u>2.496</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A110</u>	<u>5534</u>	
14) Calibration Reference Date	<u>9/3/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>9/3/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/4/2003</u>	
17) Location <u>QCLAB/STWT0842</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/3/2003</u>
3) Source Identification Number / Ref. Number		<u>RA22803A000</u>	<u>5444</u>
4) Source Activity (dpm \pm dpm/g)	<u>2.5563E+05</u>	\pm	<u>6.135E+03</u>
5) Percent error of Source Activity	<u>2.4</u>	%	
6) Weight of Source Material used (g)	<u>5.02032</u>		
7) (% Error) of Weight of Source Material used	<u>0.0956</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>100.67</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2980</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.2748E+04</u>	\pm	<u>3.085E+02</u>
12) Total Uncertainty	<u>2.420</u>	%	
13) Dilution Identification Number / Ref. Number		<u>RA22803A100</u>	<u>5533</u>
14) Calibration Reference Date	<u>9/3/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>9/3/2003</u>
16) Reviewed by/date	<u>SEW</u>		<u>9/4/2003</u>
17) Location	<u>OCLAB/STWT0841</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3



ISOTOPE RECORD FORM

1) Isotope RA-228 2) Reference Number 5444
3) Half Life 5.75 yrs 4) Storage Location QCLAB
5) Source Identification Number RA22803A000

CALIBRATION DATA

6) Activity as Received Units 23520.0 dps
7) Overall Uncertainty Percent 2.4%
8) Reference Date / Time 04/23/03 12:00 EST (9.00AM)
9) Activity dpm/g 2.6710E+05 ± 6.397E+3 dpm/g
10) Volume or Mass (ml/g) 5.28350g
11) Calibrated by ANALYTICS
12) Certificate Solution Number 65743-310

SURVEY DATA

13) Date Received 4/25/2003
14) Surveyed by W.G
15) Survey Reading (Beta/Gamma) cpm < 2K
16) Survey Reading (Alpha) cpm < 1K

17) Activity Conversion $23520.0 \text{ dps} \times 60 \text{ s/m} / 5.28350 \text{ g} = 2.6710\text{E}+5 \pm 6.397\text{E}+3 \text{ dpm/g}$

18) Remark Used all to make first dilution 9/3/03 wg

19) Isotope File Updated by 04/29/03 W.G

20) QC Approved _____

ANALYTICS



#5944
Rec'd 4/29/03

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

65743-310

Ra-228 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Ra-228
ACTIVITY (dps):	2.352 E4
HALF-LIFE:	5.75 years
CALIBRATION DATE:	April 23, 2003 12:00 EST
TOTAL UNCERTAINTY*:	2.4%

*95% Confidence Level

Impurities: γ -impurities (other than decay products) <0.1%,
Ra-226 <0.1%

5.28350 grams 4M HCl solution with 100 $\mu\text{g/g}$ Ba carrier.

P O NUMBER 1735885-000 OP, Item 1

Produced from master solution P111V105.

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

W.M. Mty 4-23-03

RADIUM 226

CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAY-2006 11:35:39.92

QA Filename : \$DISK1:[SCINT1.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-1

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 253202.000000 Upper Bound : 272606.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 262904.093750 Std Deviation : 3234.747803

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 11:30	count		267892.0000		
2-MAR-2006 14:29	count		263403.0000		
3-MAR-2006 09:13	count		263940.0000		
6-MAR-2006 09:27	count		266790.0000		
7-MAR-2006 10:11	count		264489.0000		
13-MAR-2006 06:44	count		262924.0000		
14-MAR-2006 07:56	count		269129.0000		
15-MAR-2006 06:21	count		262111.0000		
16-MAR-2006 07:30	count		268251.0000		
17-MAR-2006 08:12	count		268652.0000		
20-MAR-2006 06:02	count		263659.0000		
21-MAR-2006 08:29	count		265211.0000		
22-MAR-2006 07:10	count		263169.0000		
23-MAR-2006 06:16	count		262061.0000		
24-MAR-2006 06:28	count		264487.0000		
26-MAR-2006 07:33	count		266234.0000		
27-MAR-2006 05:42	count		260475.0000		
28-MAR-2006 06:26	count		265175.0000		
29-MAR-2006 06:16	count		265254.0000		
30-MAR-2006 06:32	count		263095.0000		
31-MAR-2006 06:05	count		262093.0000		

3-APR-2006 06:28	count	263294.0000			
4-APR-2006 07:04	count	264121.0000			
5-APR-2006 06:43	count	265454.0000			
6-APR-2006 06:32	count	264968.0000			
7-APR-2006 05:30	count	262431.0000			
8-APR-2006 09:01	count	263572.0000			
10-APR-2006 05:29	count	264082.0000			
11-APR-2006 06:06	count	265716.0000			
12-APR-2006 08:52	count	264582.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:40.34

QA Filename : \$DISK1:[SCINT1.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000min bkg, ascint-1

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

31-MAR-2006 09:35	count		0.0000		
-------------------	-------	--	--------	--	--

Quality Assurance Report.

Generated 26-MAY-2006 11:35:46.16

QA Filename : \$DISK1:[SCINT2.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-2

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 249750.000000 Upper Bound : 268866.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 259307.890625 Std Deviation : 3185.889160

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 11:46	count		262001.0000		
3-MAR-2006 09:38	count		259993.0000		
6-MAR-2006 09:47	count		263954.0000		
7-MAR-2006 10:22	count		258764.0000		
8-MAR-2006 11:31	count		264128.0000		
13-MAR-2006 07:00	count		257949.0000		
14-MAR-2006 10:15	count		265671.0000		
15-MAR-2006 06:37	count		258396.0000		
16-MAR-2006 07:42	count		261890.0000		
17-MAR-2006 08:41	count		262046.0000		
20-MAR-2006 06:19	count		260931.0000		
21-MAR-2006 08:51	count		261304.0000		
22-MAR-2006 07:23	count		258334.0000		
23-MAR-2006 06:33	count		260426.0000		
24-MAR-2006 06:47	count		260061.0000		
27-MAR-2006 05:58	count		258457.0000		
28-MAR-2006 06:43	count		260833.0000		
29-MAR-2006 08:06	count		260543.0000		
30-MAR-2006 08:03	count		261556.0000		
31-MAR-2006 06:18	count		258764.0000		
3-APR-2006 06:42	count		258763.0000		

4-APR-2006 08:24	count	259749.0000			
5-APR-2006 06:57	count	263289.0000			
6-APR-2006 09:31	count	263158.0000			
7-APR-2006 05:52	count	258259.0000			
8-APR-2006 10:36	count	260722.0000			
10-APR-2006 05:42	count	260165.0000			
11-APR-2006 06:21	count	263821.0000			
12-APR-2006 09:15	count	259594.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:46.57

QA Filename : \$DISK1:[SCINT2.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-2
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
31-MAR-2006 08:36	count		0.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:35:52.51

QA Filename : \$DISK1:[SCINT3.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-3

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 249127.000000 Upper Bound : 267709.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 258418.078125 Std Deviation : 3097.009277

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 12:02	count		259635.0000		
3-MAR-2006 09:56	count		258251.0000		
6-MAR-2006 09:58	count		260089.0000		
7-MAR-2006 10:34	count		260327.0000		
13-MAR-2006 07:30	count		255255.0000		
14-MAR-2006 10:27	count		263316.0000		
15-MAR-2006 06:54	count		258146.0000		
16-MAR-2006 07:58	count		259922.0000		
17-MAR-2006 08:52	count		260551.0000		
20-MAR-2006 06:31	count		260514.0000		
21-MAR-2006 09:04	count		260835.0000		
22-MAR-2006 07:36	count		257730.0000		
23-MAR-2006 06:47	count		260072.0000		
24-MAR-2006 06:59	count		259768.0000		
27-MAR-2006 06:10	count		257147.0000		
28-MAR-2006 07:12	count		260280.0000		
29-MAR-2006 08:20	count		262036.0000		
30-MAR-2006 08:16	count		261880.0000		
31-MAR-2006 06:31	count		257366.0000		
3-APR-2006 06:54	count		256127.0000		
4-APR-2006 09:57	count		257667.0000		

5-APR-2006 07:22	count	263736.0000			
6-APR-2006 09:44	count	260878.0000			
7-APR-2006 06:03	count	259126.0000			
8-APR-2006 09:21	count	260992.0000			
10-APR-2006 05:54	count	262152.0000			
11-APR-2006 06:34	count	264364.0000			
12-APR-2006 09:28	count	257991.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:53.13

QA Filename : \$DISK1:[SCINT3.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-3
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
31-MAR-2006 08:36	count		0.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:35:57.89

QA Filename : \$DISK1:[SCINT4.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-4

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 468554.000000 Upper Bound : 533576.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 501064.781250 Std Deviation : 10837.329102

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 10:38	count		512904.0000		
2-MAR-2006 12:50	count		513699.0000		
6-MAR-2006 08:32	count		507483.0000		
7-MAR-2006 10:22	count		507221.0000		
8-MAR-2006 08:31	count		522555.0000		
13-MAR-2006 06:44	count		513259.0000		
14-MAR-2006 09:45	count		509544.0000		
15-MAR-2006 06:21	count		500748.0000		
16-MAR-2006 07:02	count		496598.0000		
17-MAR-2006 08:12	count		507548.0000		
20-MAR-2006 06:02	count		514527.0000		
21-MAR-2006 08:29	count		519867.0000		
23-MAR-2006 06:16	count		515589.0000		
24-MAR-2006 06:28	count		506480.0000		
27-MAR-2006 05:42	count		514713.0000		
28-MAR-2006 06:26	count		510895.0000		
29-MAR-2006 06:16	count		528918.0000	In	
30-MAR-2006 08:03	count		510238.0000		
31-MAR-2006 06:14	count		504721.0000		
3-APR-2006 06:28	count		508173.0000		
4-APR-2006 07:04	count		513802.0000		

5-APR-2006 06:43	count	512776.0000			
6-APR-2006 06:32	count	516741.0000			
7-APR-2006 05:32	count	506770.0000			
8-APR-2006 09:01	count	500642.0000			
10-APR-2006 05:29	count	533529.0000		In	
11-APR-2006 06:06	count	511974.0000			
12-APR-2006 09:15	count	518994.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:58.30

QA Filename : \$DISK1:[SCINT4.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-4
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : ----- End Date : -----
 Mean : 5.383333 Std Deviation : 18.094940

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
31-MAR-2006 12:33	count		4.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:36:04.23

QA Filename : \$DISK1:[SCINT5.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-5

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 425642.000000 Upper Bound : 477409.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 21-SEP-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 451525.843750 Std Deviation : 8627.839844

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

3-MAR-2006 09:13	count		505712.0000	Ab Ac	
3-MAR-2006 09:24	count		504298.0000	Ab Ac	
6-MAR-2006 08:54	count		503420.0000	Ab Ac	
6-MAR-2006 09:06	count		502677.0000	Ab Ac	
7-MAR-2006 08:24	count		514861.0000	Ab Ac	
7-MAR-2006 10:10	count		515068.0000	Ab Ac	
8-MAR-2006 09:21	count		507550.0000	Ab Ac	
8-MAR-2006 09:37	count		506813.0000	Ab Ac	
13-MAR-2006 07:00	count		495232.0000	Ab Ac	
13-MAR-2006 07:13	count		490963.0000	Ab Ac	
14-MAR-2006 09:01	count		496014.0000	Ab Ac	
15-MAR-2006 06:37	count		486854.0000	Ab Ac	
15-MAR-2006 06:53	count		487956.0000	Ab Ac	
16-MAR-2006 08:00	count		504216.0000	Ab Ac	
17-MAR-2006 09:38	count		487462.0000	Ab Ac	
20-MAR-2006 06:19	count		499646.0000	Ab Ac	
21-MAR-2006 10:12	count		496616.0000	Ab Ac	
22-MAR-2006 07:06	count		497787.0000	Ab Ac	
23-MAR-2006 06:33	count		499836.0000	Ab Ac	
23-MAR-2006 07:29	count		443014.0000		
23-MAR-2006 09:11	count		438474.0000		

23-MAR-2006 09:29	count	439538.0000	
23-MAR-2006 09:43	count	437437.0000	
23-MAR-2006 09:54	count	437576.0000	
24-MAR-2006 06:47	count	434819.0000	
27-MAR-2006 05:58	count	446933.0000	
28-MAR-2006 06:43	count	442726.0000	
29-MAR-2006 08:06	count	438277.0000	
30-MAR-2006 08:16	count	433546.0000	In
31-MAR-2006 06:25	count	434745.0000	
3-APR-2006 06:42	count	442611.0000	
4-APR-2006 09:57	count	439292.0000	
5-APR-2006 06:57	count	445583.0000	
6-APR-2006 08:28	count	439439.0000	
7-APR-2006 05:51	count	438792.0000	
8-APR-2006 09:21	count	433377.0000	In
8-APR-2006 10:47	count	440112.0000	
10-APR-2006 05:42	count	453452.0000	

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

11-APR-2006 06:21	count		440359.0000		
12-APR-2006 09:28	count		443062.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:36:04.64

QA Filename : \$DISK1:[SCINT5.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-5

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----

Mean : 4214.022949 Std Deviation : 40020.859375

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
31-MAR-2006 08:36	count		0.0000	

Quality Assurance Report.

Generated 26-MAY-2006 11:36:09.43

QA Filename : \$DISK1:[SCINT8.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-8

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 365942.000000 Upper Bound : 434690.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 400316.312500 Std Deviation : 11458.545898

Measurement Time	Sample ID	Sample Analyst	Value	LU	SD	UD	BS	Rej
------------------	-----------	----------------	-------	----	----	----	----	-----

1-MAR-2006 11:46	count		401151.0000					
3-MAR-2006 09:57	count		399476.0000					
6-MAR-2006 09:58	count		406439.0000					
7-MAR-2006 11:07	count		391101.0000					
8-MAR-2006 11:18	count		413158.0000					
13-MAR-2006 07:54	count		420639.0000					
14-MAR-2006 10:48	count		409462.0000					
15-MAR-2006 08:07	count		406835.0000					
16-MAR-2006 07:30	count		404978.0000					
17-MAR-2006 09:03	count		393785.0000					
20-MAR-2006 06:55	count		390713.0000					
21-MAR-2006 09:35	count		394203.0000					
22-MAR-2006 07:43	count		401596.0000					
23-MAR-2006 08:49	count		401755.0000					
24-MAR-2006 07:48	count		408042.0000					
27-MAR-2006 06:37	count		390599.0000					
28-MAR-2006 07:43	count		397912.0000					
29-MAR-2006 09:27	count		425414.0000	In				
30-MAR-2006 09:02	count		409187.0000					
31-MAR-2006 07:51	count		398289.0000					
3-APR-2006 08:19	count		396655.0000					

4-APR-2006 11:10	count	396349.0000			
5-APR-2006 07:34	count	413296.0000			
6-APR-2006 09:17	count	405341.0000			
7-APR-2006 06:25	count	412076.0000			
8-APR-2006 11:14	count	395122.0000			
10-APR-2006 06:40	count	408699.0000			
11-APR-2006 06:48	count	410348.0000			
12-APR-2006 08:52	count	391732.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:36:09.84

QA Filename : \$DISK1:[SCINT8.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-8
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

31-MAR-2006 12:33	count		0.0000	

Quality Assurance Report.

Generated 26-MAY-2006 11:36:14.33

QA Filename : \$DISK1:[SCINT9.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-9

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 248138.000000 Upper Bound : 272733.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 260434.531250 Std Deviation : 4099.330566

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 08:51	count		258755.0000		
6-MAR-2006 07:57	count		256995.0000		
7-MAR-2006 07:53	count		255163.0000		
8-MAR-2006 09:21	count		256865.0000		
9-MAR-2006 08:14	count		258213.0000		
13-MAR-2006 07:42	count		261030.0000		
14-MAR-2006 07:42	count		257230.0000		
15-MAR-2006 07:17	count		262919.0000		
16-MAR-2006 06:30	count		254480.0000		
17-MAR-2006 07:07	count		260172.0000		
20-MAR-2006 06:43	count		262037.0000		
21-MAR-2006 09:35	count		260131.0000		
22-MAR-2006 08:15	count		261884.0000		
23-MAR-2006 07:52	count		256064.0000		
24-MAR-2006 07:26	count		262867.0000		
27-MAR-2006 06:25	count		261178.0000		
28-MAR-2006 07:28	count		264126.0000		
29-MAR-2006 08:58	count		264331.0000		
30-MAR-2006 08:35	count		266029.0000		
31-MAR-2006 07:51	count		256078.0000		
3-APR-2006 07:26	count		259417.0000		

4-APR-2006 10:44	count	259204.0000			
5-APR-2006 07:34	count	266057.0000			
6-APR-2006 08:28	count	257181.0000			
7-APR-2006 06:25	count	262996.0000			
8-APR-2006 09:34	count	262763.0000			
10-APR-2006 06:17	count	264783.0000			
11-APR-2006 06:48	count	264018.0000			
12-APR-2006 09:39	count	263161.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:36:14.72

QA Filename : \$DISK1:[SCINT9.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-9
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

31-MAR-2006 12:33	count		0.0000	

Quality Assurance Report.

Generated 26-MAY-2006 11:34:36.19

QA Filename : \$DISK1:[SCINT11.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-11

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 248368.000000 Upper Bound : 276936.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 21-SEP-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 262651.750000 Std Deviation : 4761.245117

Measurement Time	Sample ID	Sample Analyst	Value	LU	SD	UD	BS	Rej
------------------	-----------	----------------	-------	----	----	----	----	-----

1-MAR-2006 11:15	count		262734.0000					
2-MAR-2006 14:42	count		265688.0000					
6-MAR-2006 08:31	count		266241.0000					
7-MAR-2006 11:07	count		266875.0000					
8-MAR-2006 11:07	count		265770.0000					
13-MAR-2006 08:06	count		264258.0000					
14-MAR-2006 09:16	count		266875.0000					
15-MAR-2006 07:57	count		265650.0000					
16-MAR-2006 07:02	count		265616.0000					
17-MAR-2006 07:36	count		266882.0000					
20-MAR-2006 07:17	count		267126.0000					
21-MAR-2006 10:00	count		268220.0000					
22-MAR-2006 08:54	count		264963.0000					
23-MAR-2006 08:49	count		265270.0000					
24-MAR-2006 08:01	count		267439.0000					
27-MAR-2006 06:48	count		264963.0000					
28-MAR-2006 08:22	count		267092.0000					
29-MAR-2006 09:27	count		266531.0000					
30-MAR-2006 09:02	count		266559.0000					
31-MAR-2006 08:16	count		265904.0000					
3-APR-2006 08:43	count		269003.0000					

4-APR-2006 11:36	count	266771.0000			
5-APR-2006 08:01	count	269180.0000			
6-APR-2006 09:59	count	266373.0000			
7-APR-2006 07:03	count	266730.0000			
10-APR-2006 07:19	count	267101.0000			
11-APR-2006 08:09	count	266969.0000			
12-APR-2006 10:34	count	266712.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:34:36.59

QA Filename : \$DISK1:[SCINT11.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-11
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.250000 Std Deviation : 0.462910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
31-MAR-2006 08:36	count		0.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:34:42.94

QA Filename : \$DISK1:[SCINT12.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-12

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 265813.000000 Upper Bound : 278509.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 18-AUG-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 272160.875000 Std Deviation : 2116.000244

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 10:39	count		275211.0000		
6-MAR-2006 08:54	count		275742.0000		
7-MAR-2006 11:24	count		276449.0000	In	
8-MAR-2006 11:18	count		276495.0000	In	
13-MAR-2006 08:19	count		274920.0000		
14-MAR-2006 09:45	count		276719.0000	In	
15-MAR-2006 08:08	count		276805.0000	In	
16-MAR-2006 07:16	count		277085.0000	In	
17-MAR-2006 07:52	count		277668.0000	In	
20-MAR-2006 07:28	count		276824.0000	In	
21-MAR-2006 10:12	count		276979.0000	In	
22-MAR-2006 09:08	count		276427.0000	In	
23-MAR-2006 09:11	count		274474.0000		
24-MAR-2006 08:43	count		278089.0000	In	
27-MAR-2006 07:12	count		275396.0000		
28-MAR-2006 08:49	count		277597.0000	In	
29-MAR-2006 09:42	count		276512.0000	In	
30-MAR-2006 09:13	count		276389.0000		
31-MAR-2006 08:30	count		276546.0000	In	
3-APR-2006 08:59	count		277593.0000	In	
4-APR-2006 11:49	count		278018.0000	In	

5-APR-2006 07:48	count	280700.0000	Ab Ac	
5-APR-2006 08:19	count	279075.0000	Ab Ac	
6-APR-2006 09:17	count	276137.0000		
7-APR-2006 07:15	count	275703.0000		
8-APR-2006 12:30	count	277476.0000	In	
10-APR-2006 07:40	count	277823.0000	In	
11-APR-2006 08:32	count	279677.0000	Ab Ac	
11-APR-2006 09:08	count	279893.0000	Ab Ac	
12-APR-2006 10:57	count	276638.0000	In	

Quality Assurance Report. Generated 26-MAY-2006 11:34:43.39

QA Filename : \$DISK1:[SCINT12.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-12
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.428571 Std Deviation : 0.534522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

31-MAR-2006 09:36	count		0.0000		
-------------------	-------	--	--------	--	--

Quality Assurance Report. Generated 26-MAY-2006 11:34:49.47

QA Filename : \$DISK1:[SCINT13.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-13
 Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 19307.000000 Upper Bound : 22445.099609

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 20876.917969 Std Deviation : 523.029602

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 08:51	count	20228.0000		
2-MAR-2006 14:29	count	20114.0000		
3-MAR-2006 09:13	count	20193.0000		
6-MAR-2006 07:57	count	19672.0000	In	
7-MAR-2006 10:12	count	19982.0000		
8-MAR-2006 08:31	count	19920.0000		
9-MAR-2006 08:14	count	19983.0000		
13-MAR-2006 06:43	count	19912.0000		
14-MAR-2006 07:42	count	20163.0000		
15-MAR-2006 06:21	count	19905.0000		
16-MAR-2006 06:31	count	19775.0000	In	
20-MAR-2006 06:03	count	20265.0000		
21-MAR-2006 08:29	count	19977.0000		
22-MAR-2006 07:10	count	18914.0000	Be Ac	
22-MAR-2006 07:23	count	19748.0000	In	
23-MAR-2006 06:16	count	20273.0000		
24-MAR-2006 06:28	count	20121.0000		
26-MAR-2006 07:28	count	20141.0000		
27-MAR-2006 05:43	count	19782.0000	In	
28-MAR-2006 06:26	count	20125.0000		
29-MAR-2006 06:13	count	19811.0000	In	

30-MAR-2006 06:32	count	20023.0000			
31-MAR-2006 06:05	count	20140.0000			
5-APR-2006 06:43	count	20162.0000			
6-APR-2006 06:32	count	19996.0000			
7-APR-2006 05:32	count	19910.0000			
8-APR-2006 09:01	count	20118.0000			
10-APR-2006 05:29	count	20236.0000			
11-APR-2006 06:06	count	20004.0000			
12-APR-2006 08:52	count	20199.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:34:49.92

QA Filename : \$DISK1:[SCINT13.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-13

Parameter Units : counts Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

31-MAR-2006 09:36	count	11.0000		
3-APR-2006 06:09	count	61.0000		
4-APR-2006 11:10	count	4.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:34:55.53

QA Filename : \$DISK1:[SCINT14.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-14

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 434740.000000 Upper Bound : 480933.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-OCT-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 457837.062500 Std Deviation : 7698.662109

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 08:51	count		464586.0000		
6-MAR-2006 07:57	count		454489.0000		
7-MAR-2006 07:53	count		484007.0000	Ab Ac	
7-MAR-2006 11:24	count		449323.0000		
8-MAR-2006 11:31	count		450275.0000		
13-MAR-2006 09:40	count		446835.0000		
14-MAR-2006 07:42	count		472729.0000		
15-MAR-2006 08:19	count		448007.0000		
16-MAR-2006 06:31	count		449592.0000		
17-MAR-2006 07:07	count		466504.0000		
20-MAR-2006 07:07	count		454378.0000		
21-MAR-2006 09:47	count		465749.0000		
22-MAR-2006 08:15	count		457584.0000		
23-MAR-2006 07:52	count		462930.0000		
24-MAR-2006 08:01	count		458624.0000		
27-MAR-2006 06:48	count		451039.0000		
28-MAR-2006 08:22	count		462580.0000		
29-MAR-2006 09:42	count		463987.0000		
30-MAR-2006 07:32	count		462071.0000		
31-MAR-2006 06:38	count		454721.0000		
3-APR-2006 07:26	count		462513.0000		

4-APR-2006 10:44	count	444667.0000			
5-APR-2006 08:01	count	460310.0000			
6-APR-2006 09:31	count	454937.0000			
7-APR-2006 06:45	count	460447.0000			
8-APR-2006 11:29	count	458831.0000			
10-APR-2006 07:08	count	461061.0000			
11-APR-2006 08:09	count	459512.0000			
12-APR-2006 10:00	count	458685.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:34:55.93

QA Filename : \$DISK1:[SCINT14.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-14

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

31-MAR-2006 12:33	count		0.0000			
-------------------	-------	--	--------	--	--	--

Quality Assurance Report.

Generated 26-MAY-2006 11:35:01.63

QA Filename : \$DISK1:[SCINT16.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-16

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 79969.000000 Upper Bound : 84025.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 81997.304688 Std Deviation : 676.010071

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 08:49	count		81861.0000	
3-MAR-2006 09:13	count		81343.0000	
4-MAR-2006 10:44	count		81870.0000	
6-MAR-2006 08:18	count		81555.0000	
7-MAR-2006 10:11	count		81245.0000	
8-MAR-2006 09:21	count		81351.0000	
9-MAR-2006 08:31	count		81033.0000	
13-MAR-2006 07:00	count		82520.0000	
14-MAR-2006 07:56	count		81579.0000	
15-MAR-2006 06:37	count		81399.0000	
16-MAR-2006 07:02	count		80887.0000	
17-MAR-2006 07:10	count		81089.0000	
20-MAR-2006 06:19	count		81299.0000	
21-MAR-2006 08:51	count		81594.0000	
22-MAR-2006 07:32	count		81500.0000	
23-MAR-2006 06:33	count		81985.0000	
24-MAR-2006 06:47	count		82134.0000	
27-MAR-2006 05:58	count		81364.0000	
28-MAR-2006 06:43	count		81484.0000	
29-MAR-2006 09:42	count		81702.0000	
30-MAR-2006 08:49	count		81485.0000	

31-MAR-2006 06:18	count	82074.0000			
3-APR-2006 07:25	count	80797.0000			
4-APR-2006 08:25	count	82275.0000			
5-APR-2006 07:22	count	80934.0000			
6-APR-2006 08:36	count	82573.0000			
7-APR-2006 05:51	count	81484.0000			
8-APR-2006 09:22	count	80929.0000			
10-APR-2006 05:42	count	81223.0000			
11-APR-2006 06:21	count	81558.0000			
12-APR-2006 09:15	count	81205.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:02.26

QA Filename : \$DISK1:[SCINT16.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-16
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 2.250000 Std Deviation : 1.035098

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

31-MAR-2006 08:35	count		4.0000		

Quality Assurance Report. Generated 26-MAY-2006 11:35:06.77

QA Filename : \$DISK1:[SCINT18.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-18
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 78167.000000 Upper Bound : 81716.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 21-SEP-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 79943.148438 Std Deviation : 591.893616

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 11:44	count		79944.0000	
2-MAR-2006 14:54	count		79805.0000	
3-MAR-2006 09:38	count		79408.0000	
6-MAR-2006 09:28	count		79391.0000	
7-MAR-2006 10:34	count		79306.0000	
8-MAR-2006 11:07	count		79873.0000	
13-MAR-2006 07:31	count		80460.0000	
14-MAR-2006 08:56	count		80045.0000	
15-MAR-2006 07:17	count		79405.0000	
16-MAR-2006 07:30	count		79497.0000	
17-MAR-2006 07:36	count		79623.0000	
20-MAR-2006 06:42	count		79252.0000	
21-MAR-2006 09:35	count		79432.0000	
22-MAR-2006 08:15	count		79538.0000	
23-MAR-2006 07:01	count		79761.0000	
24-MAR-2006 07:25	count		79309.0000	
27-MAR-2006 06:25	count		78805.0000	
28-MAR-2006 07:28	count		79163.0000	
29-MAR-2006 09:12	count		79495.0000	
30-MAR-2006 08:16	count		78959.0000	
31-MAR-2006 06:43	count		79504.0000	

3-APR-2006 07:47	count	78411.0000	In	
4-APR-2006 10:44	count	79492.0000		
5-APR-2006 07:48	count	78653.0000	In	
6-APR-2006 09:31	count	80093.0000		
7-APR-2006 06:25	count	78724.0000	In	
8-APR-2006 09:36	count	79057.0000		
10-APR-2006 06:11	count	78739.0000	In	
11-APR-2006 06:48	count	79228.0000		
12-APR-2006 09:40	count	79172.0000		

Quality Assurance Report. Generated 26-MAY-2006 11:35:07.15

QA Filename : \$DISK1:[SCINT18.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-18
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.428571 Std Deviation : 0.786796

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

31-MAR-2006 08:35	count		0.0000		
-------------------	-------	--	--------	--	--

Quality Assurance Report.

Generated 26-MAY-2006 11:35:13.56

QA Filename : \$DISK1:[SCINT19.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-19

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 16907.000000 Upper Bound : 18329.800781

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----

Mean : 17784.054688 Std Deviation : 1083.267700

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 08:51	count		18161.0000		
3-MAR-2006 09:13	count		0.0000	Be Ac	R
3-MAR-2006 09:37	count		18058.0000		
4-MAR-2006 10:44	count		17652.0000		
6-MAR-2006 07:57	count		17755.0000		
7-MAR-2006 07:53	count		18035.0000		
8-MAR-2006 08:31	count		17865.0000		
9-MAR-2006 08:14	count		17982.0000		
13-MAR-2006 06:43	count		17886.0000		
14-MAR-2006 08:06	count		18247.0000		
15-MAR-2006 06:22	count		18067.0000		
16-MAR-2006 06:31	count		18080.0000		
17-MAR-2006 07:07	count		18015.0000		
20-MAR-2006 06:03	count		17836.0000		
21-MAR-2006 08:29	count		17918.0000		
22-MAR-2006 06:05	count		18168.0000		
23-MAR-2006 06:16	count		18430.0000	Ab	
23-MAR-2006 06:31	count		17990.0000		
24-MAR-2006 06:28	count		18220.0000		
26-MAR-2006 07:28	count		18147.0000		
27-MAR-2006 05:43	count		17729.0000		

28-MAR-2006 06:26	count	17981.0000			
29-MAR-2006 06:13	count	17975.0000			
30-MAR-2006 06:32	count	18063.0000			
31-MAR-2006 06:05	count	17918.0000			
3-APR-2006 06:28	count	17816.0000			
4-APR-2006 07:04	count	17988.0000			
5-APR-2006 06:43	count	18003.0000			
6-APR-2006 06:32	count	17942.0000			
7-APR-2006 05:32	count	18227.0000			
8-APR-2006 09:01	count	18120.0000			
10-APR-2006 05:30	count	17911.0000			
11-APR-2006 06:21	count	17827.0000			
12-APR-2006 08:52	count	18232.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:14.08

QA Filename : \$DISK1:[SCINT19.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-19

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----

Mean : 0.560976 Std Deviation : 1.285472

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

31-MAR-2006 12:33	count		0.0000		
-------------------	-------	--	--------	--	--

Quality Assurance Report.

Generated 26-MAY-2006 11:35:18.97

QA Filename : \$DISK1:[SCINT20.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-20

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 77795.000000 Upper Bound : 82120.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 10:39	count		79377.0000		
2-MAR-2006 13:43	count		79369.0000		
6-MAR-2006 08:54	count		79539.0000		
7-MAR-2006 10:55	count		79786.0000		
8-MAR-2006 11:18	count		79482.0000		
13-MAR-2006 07:42	count		79358.0000		
14-MAR-2006 09:18	count		79260.0000		
15-MAR-2006 07:43	count		79428.0000		
16-MAR-2006 07:42	count		79780.0000		
17-MAR-2006 07:52	count		79369.0000		
20-MAR-2006 07:38	count		79622.0000		
21-MAR-2006 09:47	count		79705.0000		
22-MAR-2006 06:05	count		79203.0000		
23-MAR-2006 07:52	count		79417.0000		
24-MAR-2006 07:59	count		79674.0000		
27-MAR-2006 06:37	count		78960.0000		
28-MAR-2006 07:43	count		79881.0000		
29-MAR-2006 08:07	count		78375.0000		
30-MAR-2006 07:32	count		79352.0000		
31-MAR-2006 07:08	count		79377.0000		
3-APR-2006 06:51	count		78848.0000		
4-APR-2006 11:10	count		79534.0000		
5-APR-2006 08:01	count		78460.0000		
6-APR-2006 09:45	count		79778.0000		
7-APR-2006 06:44	count		79084.0000		
8-APR-2006 10:54	count		79117.0000		
10-APR-2006 07:45	count		78926.0000		

11-APR-2006 07:02	count	79110.0000			
12-APR-2006 10:00	count	79191.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:19.29

QA Filename : \$DISK1:[SCINT20.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-20
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----
 Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----
 Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

31-MAR-2006 12:34	count		0.0000		

Quality Assurance Report.

Generated 26-MAY-2006 11:35:25.29

QA Filename : \$DISK1:[SCINT23.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-23

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 79018.500000 Upper Bound : 83000.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 21-OCT-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 80966.593750 Std Deviation : 560.867310

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 11:30	count		80428.0000		
2-MAR-2006 14:42	count		80631.0000		
6-MAR-2006 07:57	count		79952.0000		
7-MAR-2006 07:53	count		80214.0000		
8-MAR-2006 08:31	count		80478.0000		
9-MAR-2006 08:14	count		79842.0000	In	
13-MAR-2006 06:44	count		80669.0000		
14-MAR-2006 07:42	count		80412.0000		
15-MAR-2006 06:22	count		80708.0000		
16-MAR-2006 06:31	count		0.0000	Be Ac	R
16-MAR-2006 06:44	count		80277.0000		
16-MAR-2006 07:42	count		3.0000	Be Ac	R
17-MAR-2006 06:57	count		80354.0000		
20-MAR-2006 06:03	count		80114.0000		
21-MAR-2006 08:29	count		80586.0000		
22-MAR-2006 07:17	count		80490.0000		
23-MAR-2006 06:16	count		80628.0000		
24-MAR-2006 06:28	count		81164.0000		
26-MAR-2006 07:33	count		80378.0000		
27-MAR-2006 05:43	count		79837.0000	In	
28-MAR-2006 06:26	count		80190.0000		

29-MAR-2006 06:13	count	80658.0000	
30-MAR-2006 06:32	count	80799.0000	
31-MAR-2006 06:05	count	80051.0000	
3-APR-2006 06:28	count	80091.0000	
4-APR-2006 07:04	count	79957.0000	
5-APR-2006 06:43	count	79220.0000	Ac
5-APR-2006 06:56	count	78843.0000	Be Ac
6-APR-2006 06:32	count	80390.0000	
7-APR-2006 05:32	count	79762.0000	In
8-APR-2006 09:01	count	79957.0000	
10-APR-2006 05:29	count	79904.0000	✓
11-APR-2006 06:06	count	79643.0000	In
12-APR-2006 08:52	count	80137.0000	

Quality Assurance Report. Generated 26-MAY-2006 11:35:25.68

QA Filename : \$DISK1:[SCINT23.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-23
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 4.428571 Std Deviation : 3.631365

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

31-MAR-2006 08:35	count	0.0000	
-------------------	-------	--------	--

Quality Assurance Report.

Generated 26-MAY-2006 11:35:31.37

QA Filename : \$DISK1:[SCINT24.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-24

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 45515.000000 Upper Bound : 48435.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-SEP-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 45858.765625 Std Deviation : 378.449982

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 08:51	count		45856.0000	
2-MAR-2006 14:29	count		45857.0000	
3-MAR-2006 09:13	count		45827.0000	
6-MAR-2006 07:57	count		45652.0000	
7-MAR-2006 07:53	count		45709.0000	
8-MAR-2006 08:31	count		45946.0000	
9-MAR-2006 08:14	count		45805.0000	
13-MAR-2006 06:43	count		45961.0000	
14-MAR-2006 07:42	count		45898.0000	
15-MAR-2006 06:22	count		45696.0000	
16-MAR-2006 06:31	count		45822.0000	
17-MAR-2006 06:57	count		46233.0000	
20-MAR-2006 06:03	count		46210.0000	
21-MAR-2006 08:29	count		45395.0000	Be
21-MAR-2006 08:43	count		45583.0000	
22-MAR-2006 06:05	count		45771.0000	
23-MAR-2006 06:16	count		46365.0000	
24-MAR-2006 06:28	count		45611.0000	
26-MAR-2006 07:28	count		45924.0000	
27-MAR-2006 05:43	count		45877.0000	
28-MAR-2006 06:26	count		46164.0000	

29-MAR-2006 06:13	count	45901.0000			
30-MAR-2006 06:32	count	46101.0000			
31-MAR-2006 06:05	count	46607.0000			
3-APR-2006 06:28	count	45857.0000			
4-APR-2006 07:04	count	46505.0000			
5-APR-2006 06:43	count	46421.0000			
6-APR-2006 06:32	count	46119.0000			
7-APR-2006 05:32	count	46076.0000			
8-APR-2006 09:01	count	45694.0000			
10-APR-2006 05:30	count	45712.0000			
11-APR-2006 06:06	count	45997.0000			
12-APR-2006 08:52	count	45520.0000			

Quality Assurance Report. Generated 26-MAY-2006 11:35:31.75

QA Filename : \$DISK1:[SCINT24.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-24
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.142857 Std Deviation : 0.377964

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

31-MAR-2006 08:35	count		0.0000		

RADIUM 228

SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060344; RRA228 Ra-228 by GPC
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

First Level Review

Pam Anderson

Date 4-12-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

6060344

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			✓
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review:

Sherryll R Adams

Date: 4-13-06

3/31/2006 10:49:52 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TF Radium-228 by GPC

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech: 11:40 4/03/06 S.H.

Sep2 DT/Tm Tech: 4-11-6 MT 9.57





Batch: 6060344 FILTER

pCi/sample

PM, Quote: EJ, 63174

SEQ Batch, Test: 6060342, BXTE

Prep Tech: HansenM, HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AD J6B270158-1-SAMP 	0.833sa	503.56sa	151.80g,in	0.2511g ✓ 0.9934	RATA21346 03/29/06	30.3	7A	1555	4/11/06	4/12/06
Ba-133 recoveries (see Ra-226 prep sheet)										
02/05/2006 06:00			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
2 HX81Q-1-AD J6B270158-2-SAMP 	0.833sa	501.73sa	150.71g,in	0.2502g	RATA21347 03/31/06	29.1	7B	1555	4/11/06	4/12/06
0.9123										
02/05/2006 06:35			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
3 HX81R-1-AD J6B270158-3-SAMP 	0.833sa	500.94sa	150.82g,in	0.2508g	RATA21348 03/31/06	30.3	7C	1555	4/11/06	4/12/06
1.1514										
02/05/2006 07:15			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
4 HX81T-1-AD J6B270158-4-SAMP 	0.833sa	508.67sa	150.38g,in	0.2463g	RATA21349 03/31/06	29.6	1A	1555	4/11/06	4/12/06
0.9798										
02/05/2006 07:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktail Added

Prep_SamplePrep v4.8.20

STL RICHLAND

3/31/2006 10:49:53 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TF Radium-228 by GPC

01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060344 FILTER

pCi/sampI

PM, Quote: EJ, 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6060342, BXTE

Prep Tech: HansenM,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 HX81V-1-AD J6B270158-5-SAMP	0.833sa	501.14sa	151.30g,in	0.2515g	RATA21350 03/31/06	111 30.9	BX50	1C 1555 4/11/06	1C 0639 4/12/06	
1.0814										
02/05/2006 08:15	AmtRec: FOLDER		#Containers: 1		Scr:		Alpha:		Beta:	
6 HX81W-1-AD J6B270158-6-SAMP	0.833sa	500.55sa	150.83g,in	0.251g	RATA21351 03/31/06	30.3		1D 1555 4/11/06	1d 0639 4/12/06	
0.9339										
02/05/2006 08:40	AmtRec: FOLDER		#Containers: 1		Scr:		Alpha:		Beta:	
7 HX81X-1-AD J6B270158-7-SAMP	0.833sa	500.96sa	150.62g,in	0.2505g	RATA21352 03/31/06	30.8		2A 1555 4/11/06	2a 0639 4/12/06	
1.0194										
02/05/2006 06:10	AmtRec: FOLDER		#Containers: 1		Scr:		Alpha:		Beta:	
8 HX811-1-AD J6B270158-8-SAMP	0.833sa	501.81sa	150.19g,in	0.2493g	RATA21353 03/31/06	30.5		2B 1555 4/11/06	2b 0639 4/12/06	
1.0578										
02/05/2006 06:15	AmtRec: FOLDER		#Containers: 1		Scr:		Alpha:		Beta:	

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 8

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.20

3/31/2006 10:49:53 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005

TF Radium-228 by GPC

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060344 FILTER

pCi/sampI

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6060342, BXTE

Prep Tech: HansenM,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 HX812-1-AD J6B270158-9-SAMP	0.833sa	507.36sa	151.06g,in	0.248g	RATA21354 03/31/06	21.0	3X50 2c	1555	4/11/06	0.9373 2c 0639 4/12/06
02/05/2006 06:05		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha:	Beta:	
10 HX813-1-AD J6B270158-10-SAMP	0.833sa	500.90sa	150.63g,in	0.2505g	RATA21355 03/31/06	30.8	2D	1555	4/11/06	0.9854 2d 0639 4/12/06
02/05/2006 06:40		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha:	Beta:	
11 HX814-1-AD J6B270158-11-SAMP	0.833sa	502.44sa	150.65g,in	0.2498g	RATA21356 03/31/06	25.1	3A	1555	4/11/06	1.1111 3b 0639 4/12/06
02/05/2006 07:20		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha:	Beta:	
12 HX815-1-AD J6B270158-12-SAMP	0.833sa	501.00sa	151.27g,in	0.2515g	RATA21357 03/31/06	27.3	3B	1555	4/11/06	1.0386 3c 0639 4/12/06
02/05/2006 07:50		AmtRec: FOLDER	#Containers: 1				Scr:	Alpha:	Beta:	

STL RICHLAND

3/31/2006 10:49:53 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell
Caldwell

, Brown &

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060344 FILTER
SEQ Batch, Test: 6060342, BXTE

pCi/sampI

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

Prep Tech: HansenM,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13HX816-1-AD J6B270158-13-SAMP	0.833sa	505.04sa	150.54g,in	0.2483g	RATA21358 03/31/06	141 30.4	BX50	3C 1555	4/11/06	1.1407 3d 0639 4/12/06
02/05/2006 08:20			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
14HX817-1-AD J6B270158-14-SAMP	0.833sa	501.67sa	150.12g,in	0.2493g	RATA21359 03/31/06	24.6		3D 1555	4/11/06	4A 0639 4/12/06
02/05/2006 08:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
15HX818-1-AD J6B270158-15-SAMP	0.833sa	501.09sa	150.95g,in	0.2509g	RATA21360 03/31/06	30.8		4A 1555	4/11/06	4b 0639 4/12/06
02/05/2006 06:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
16H0ERC-1-AA-B J6C010000-344-BLK			1.00sa,in	1.00sa	RATA21361 03/31/06	30.4		4B 1555	4/11/06	4C 0639 4/12/06
02/05/2006 06:00			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

3/31/2006 10:49:54 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: _____

Report Due: 03/31/2006

Sep1 DT/Tm Tech: _____

Batch: 6060344

pCi/sampl

Sep2 DT/Tm Tech: _____

SEQ Batch, Test: None

Prep Tech: ,HaackS

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
---------------------------------	--------------------	-------------------------	-----------------------------	--------------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

17H0ERC-1-AC-C

1.00sa,in

1.00sa

RASC4036

J6C010000-344-LCS

03/13/06,pd
10/04/04,r

1.0036

lin 29.5 3x50 4c 1555 4/11/06
79 0749 4/12/06 n

02/05/2006 06:00

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

1125

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81NIAD-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						
H0ERC1AA-BLK:											
Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						
H0ERC1AC-LCS:											
Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	Ra-226	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20
RA-228	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

HX81NIAD-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0ERC1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
H0ERC1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

Approved By _____

Date: _____

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 5

ISV - Insufficient Volume for Analysis

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 17

Prep_SamplePrep v4.8.20

4/12/2006 3:24:43 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/12/2005, 4/17/2006, Batch: '6060344', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060344				
AC	CalcC	HansenM	3/20/2006 4:07:44 PM	
SC		wagarr	IsBatched 3/1/2006 4:16:24 PM	ICOC_RADCALC v4.8.18
SC		HansenM	InPrep2 3/20/2006 4:07:44 PM	RICH-RC-5016 REVISION 5
SC		HansenM	Prep2C 3/29/2006 2:05:36 PM	RICH-RC-5016 REVISION 5
SC		HaackS	InPrep 3/31/2006 8:19:10 AM	RICH-RC-5005 REVISION 4
SC		HaackS	Sep1C 4/3/2006 1:31:00 PM	RICH-RC-5005 REVISION 4
SC		WhitneyT	Sep1C 4/3/2006 1:32:52 PM	RICH-RC-5005 REVISION 4
SC		TamosaitisM	Sep2C 4/11/2006 9:40:55 AM	RICH-RC-5005 REVISION 5
SC		BlackCL	InCnt2 4/11/2006 1:19:27 PM	RICH-RD-0003 REVISION 4
SC		StringerR	CalcC 4/12/2006 8:34:09 AM	RICH-RD-0003 REVISION 4
AC		HansenM	3/29/2006 2:05:36 PM	
AC		HaackS	3/31/2006 8:19:10	
AC		HaackS	4/3/2006 1:31:00 PM	
AC		WhitneyT	4/3/2006 1:32:52 PM	
AC		TamosaitisM	4/11/2006 9:40:55	
AC		BlackCL	4/11/2006 1:19:27 PM	
AC		StringerR	4/12/2006 8:34:09	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/12/2006 3:24:42 PM

Rpt DB Transfer log (Batch Results)

SEVERN
TREND STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Sample Date Units Expected	Yield	Volumes
31025	9HX81110		J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.9486E-03	1.059E+00	1.059E+00	5.274E+00	PCI/SA	1.0 1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00	5.298E+00	PCI/SA	1.0 1.0E+0 3.405E-2
RA-226	BXTE	0	4/10/2006 2:46:00 PM	2.2347E-01	9.499E-02	9.757E-02	2.773E-01	PCI/SA	1.058 8.33E-1 2.493E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.5971E+00	4.447E-01	4.617E-01	1.772E+00	PCI/SA	0.938 1.0E+0 2.493E-1
31025	9HX81210		J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.0284E+01	2.198E+00	2.444E+00	5.179E+00	PCI/SA	1.0 1.0E+0 2.07E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00	5.209E+00	PCI/SA	1.0 1.0E+0 3.295E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	-2.3959E-01	1.359E-01	1.382E-01	6.036E-01	PCI/SA	0.937 8.33E-1 2.48E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	4.4971E+00	8.231E-01	8.706E-01	2.832E+00	PCI/SA	0.572 1.0E+0 2.48E-1
31025	9HX81310		J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	4.1731E+00	1.552E+00	1.612E+00	4.862E+00	PCI/SA	1.0 1.0E+0 2.08E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00	5.341E+00	PCI/SA	1.0 1.0E+0 3.367E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.6862E-01	1.056E-01	1.092E-01	3.078E-01	PCI/SA	0.985 8.33E-1 2.505E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8241E+00	4.46E-01	4.643E-01	1.638E+00	PCI/SA	0.882 1.0E+0 2.505E-1
31025	9HX81410		J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	6.8426E+00	1.932E+00	2.058E+00	5.45E+00	PCI/SA	1.0 1.0E+0 2.079E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00	4.713E+00	PCI/SA	1.0 1.0E+0 3.318E-2
RA-226	BXTE	0	4/10/2006 3:20:00 PM	3.0838E-01	1.419E-01	1.458E-01	4.564E-01	PCI/SA	1.111 8.33E-1 2.498E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.2626E+00	4.868E-01	5.105E-01	1.737E+00	PCI/SA	0.811 1.0E+0 2.498E-1
31025	9HX81510		J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.6852E+01	2.628E+00	3.144E+00	5.103E+00	PCI/SA	1.0 1.0E+0 2.093E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00	5.06E+00	PCI/SA	1.0 1.0E+0 3.357E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	5.6304E-01	1.765E-01	1.864E-01	5.117E-01	PCI/SA	1.039 8.33E-1 2.515E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	1.8457E+00	4.531E-01	4.739E-01	1.73E+00	PCI/SA	0.824 1.0E+0 2.515E-1
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	9.3614E+00	2.111E+00	2.319E+00	4.967E+00	PCI/SA	1.0 1.0E+0 2.09E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00	5.184E+00	PCI/SA	1.0 1.0E+0 3.3E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.0856E+00	2.48E-01	3.317E-01	4.022E-01	PCI/SA	1.141 8.33E-1 2.483E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.1678E+01	1.033E+00	1.637E+00	1.489E+00	PCI/SA	1.008 1.0E+0 2.483E-1
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	1.0892E+01	2.232E+00	2.504E+00	5.119E+00	PCI/SA	1.0 1.0E+0 2.095E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00	5.291E+00	PCI/SA	1.0 1.0E+0 3.384E-2
RA-226	BXTE	0	4/10/2006 3:19:03 PM	1.1391E-01	1.07E-01	1.077E-01	3.869E-01	PCI/SA	0.96 8.33E-1 2.493E-1
RA-228	BXTF	0	4/12/2006 6:43:34 AM	-3.7761E-02	4.38E-01	4.38E-01	2.246E+00	PCI/SA	0.686 1.0E+0 2.493E-1
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	-8.6245E-01	7.724E-01	7.776E-01	4.857E+00	PCI/SA	1.0 1.0E+0 2.085E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00	5.36E+00	PCI/SA	1.0 1.0E+0 3.447E-2
RA-226	BXTE	0	4/10/2006 3:14:00 PM	1.1151E-01	8.896E-02	8.966E-02	3.131E-01	PCI/SA	1.046 8.33E-1 2.509E-1
RA-228	BXTF	0	4/12/2006 6:43:34 AM	6.1757E-01	3.751E-01	3.758E-01	1.662E+00	PCI/SA	0.937 1.0E+0 2.509E-1
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.1099E+00	1.514E+00	1.53E+00	5.957E+00	PCI/SA	1.0 1.0E+0 2.091E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00	5.408E+00	PCI/SA	1.0 1.0E+0 3.278E-2
RA-226	BXTE	0	4/10/2006 2:53:00 PM	2.6364E-01	1.546E-01	1.569E-01	5.224E-01	PCI/SA	0.993 8.33E-1 2.511E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	7.5195E-01	5.665E-01	5.665E-01	2.508E+00	PCI/SA	0.875 1.0E+0 2.511E-1
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.9199E+00	1.605E+00	1.632E+00	5.973E+00	PCI/SA	1.0 1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00	5.034E+00	PCI/SA	1.0 1.0E+0 3.315E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	-2.2718E-01	1.371E-01	1.391E-01	6.167E-01	PCI/SA	0.912 8.33E-1 2.502E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	1.6354E+00	6.613E-01	6.697E-01	2.815E+00	PCI/SA	0.772 1.0E+0 2.502E-1
31025	9HX81R10		J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	4.8606E+00	1.709E+00	1.78E+00	5.252E+00	PCI/SA	1.0 1.0E+0 2.087E-2

6060344, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date			
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	Units	Expected	Yield
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00	5.53E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:51:00 PM	1.0827E-01	8.15E-02	8.232E-02	2.838E-01	PCI/SA	1.151
RA-228	BXTF	0	4/12/2006 6:41:36 AM	-4.3617E-01	4.783E-01	4.783E-01	2.347E+00	PCI/SA	1.014
31025	9HX81T10		J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.6327E+00	2.24E+00	2.454E+00	5.858E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00	5.406E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:01 PM	2.633E-01	2.287E-01	2.305E-01	8.009E-01	PCI/SA	0.98
RA-228	BXTF	0	4/12/2006 6:42:05 AM	4.913E-02	4.822E-01	4.822E-01	2.32E+00	PCI/SA	0.843
31025	9HX81V10		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.0898E+00	2.055E+00	2.261E+00	4.93E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.6437E+01	1.736E+00	2.071E+00	5.472E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:03 PM	1.4068E-01	1.354E-01	1.363E-01	4.886E-01	PCI/SA	1.081
RA-228	BXTF	0	4/12/2006 6:42:05 AM	1.2728E+00	4.537E-01	4.683E-01	1.95E+00	PCI/SA	0.971
31025	9HX81W10		J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	6.5328E+00	1.979E+00	2.091E+00	5.942E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00	5.064E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:51:01 PM	2.3557E+00	2.987E-01	3.921E-01	7.098E-01	PCI/SA	0.934
RA-228	BXTF	0	4/12/2006 6:42:05 AM	1.8877E+01	1.088E+00	1.556E+00	2.545E+00	PCI/SA	0.823
31025	9HX81X10		J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	2.9152E+00	1.602E+00	1.63E+00	5.964E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00	5.916E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:00 PM	-1.184E-01	1.327E-01	1.332E-01	5.743E-01	PCI/SA	1.019
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8376E+00	4.353E-01	4.603E-01	1.647E+00	PCI/SA	0.913
31025	H0ERC1AB		J6C010000344	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
RA-228	BXTF	0 B	4/12/2006 6:43:34 AM	9.6731E-02	9.371E-02	9.371E-02	4.314E-01	PCI/SA	0.99
31025	H0ERC1CS		J6C010000344	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
RA-228	BXTF	0 S	4/12/2006 7:54:51 AM	3.8773E+00	2.408E-01	3.289E-01	4.422E-01	PCI/SA	5.0824E+00 0.861

6060344, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-228 by GPC				Ra-226/Ra-228 Deem With Out Blk Subt.										
Calc	TF	AIR	HX81N1AD	RA-228	3.83E-01	(8.49E-01)	U4	PCI/SA	R	1.78E+00	3.90E+00		88%	
Calc	TF	AIR	HX81N1AD	RA-228	6.07E-03	(9.09E-01)	U4	PCI/SA	R	1.98E+00	4.33E+00		88%	
Calc	TF	AIR	HX81N1AD	RA-228	1.87E+00	(1.16E+00)	U4	PCI/SA	R	2.19E+00	4.80E+00		88%	
Calc	TF	AIR	HX81N1AD	RA-228	7.52E-01	(5.67E-01)	U4	PCI/SA	A	1.14E+00	2.51E+00		88%	
Calc	TF	AIR	HX81N1AD	RA-228	1.53E+01	(6.45E+00)		PCI/SA	R	1.14E+01	2.49E+01		88%	
Calc	TF	AIR	HX81Q1AD	RA-228	1.09E+00	(1.01E+00)	U4	PCI/SA	R	2.00E+00	4.38E+00		77%	
Calc	TF	AIR	HX81Q1AD	RA-228	2.31E+00	(1.21E+00)		PCI/SA	R	2.22E+00	4.86E+00		77%	
Calc	TF	AIR	HX81Q1AD	RA-228	1.51E+00	(1.25E+00)	U4	PCI/SA	R	2.46E+00	5.39E+00		77%	
Calc	TF	AIR	HX81Q1AD	RA-228	1.64E+00	(6.70E-01)		PCI/SA	A	1.28E+00	2.81E+00		77%	
Calc	TF	AIR	HX81Q1AD	RA-228	4.05E+00	(6.09E+00)	U4	PCI/SA	R	1.27E+01	2.77E+01		77%	
Calc	TF	AIR	HX81R1AD	RA-228	-1.62E-01	(7.58E-01)	U4	PCI/SA	R	1.67E+00	3.65E+00		101%	
Calc	TF	AIR	HX81R1AD	RA-228	-8.07E-01	(7.96E-01)	U4	PCI/SA	R	1.86E+00	4.05E+00		101%	
Calc	TF	AIR	HX81R1AD	RA-228	-3.39E-01	(9.22E-01)	U4	PCI/SA	R	2.06E+00	4.49E+00		101%	
Calc	TF	AIR	HX81R1AD	RA-228	-4.36E-01	(4.78E-01)	U4	PCI/SA	A	1.08E+00	2.35E+00		101%	
Calc	TF	AIR	HX81R1AD	RA-228	1.07E+00	(4.85E+00)	U4	PCI/SA	R	1.05E+01	2.28E+01		101%	
Calc	TF	AIR	HX81T1AD	RA-228	2.60E-01	(7.66E-01)	U4	PCI/SA	R	1.63E+00	3.61E+00		84%	
Calc	TF	AIR	HX81T1AD	RA-228	-4.33E-01	(7.86E-01)	U4	PCI/SA	R	1.81E+00	4.00E+00		84%	
Calc	TF	AIR	HX81T1AD	RA-228	3.20E-01	(9.42E-01)	U4	PCI/SA	R	2.01E+00	4.44E+00		84%	
Calc	TF	AIR	HX81T1AD	RA-228	4.91E-02	(4.82E-01)	U4	PCI/SA	A	1.05E+00	2.32E+00		84%	
Calc	TF	AIR	HX81T1AD	RA-228	-5.56E+00	(4.63E+00)	U4	PCI/SA	R	1.11E+01	2.45E+01		84%	
Calc	TF	AIR	HX81V1AD	RA-228	1.58E+00	(7.69E-01)		PCI/SA	R	1.36E+00	3.03E+00		97%	
Calc	TF	AIR	HX81V1AD	RA-228	1.13E+00	(7.94E-01)	U4	PCI/SA	R	1.51E+00	3.36E+00		97%	
Calc	TF	AIR	HX81V1AD	RA-228	1.11E+00	(8.68E-01)	U4	PCI/SA	R	1.68E+00	3.73E+00		97%	
Calc	TF	AIR	HX81V1AD	RA-228	1.27E+00	(4.68E-01)		PCI/SA	A	8.77E-01	1.95E+00		97%	
Calc	TF	AIR	HX81V1AD	RA-228	4.91E+00	(4.33E+00)	U4	PCI/SA	R	8.50E+00	1.89E+01		97%	
Calc	TF	AIR	HX81W1AD	RA-228	1.99E+01	(2.71E+00)		PCI/SA	R	1.80E+00	3.96E+00		82%	
Calc	TF	AIR	HX81W1AD	RA-228	1.80E+01	(2.61E+00)		PCI/SA	R	2.00E+00	4.39E+00		82%	
Calc	TF	AIR	HX81W1AD	RA-228	1.87E+01	(2.76E+00)		PCI/SA	R	2.22E+00	4.87E+00		82%	
Calc	TF	AIR	HX81W1AD	RA-228	1.89E+01	(1.56E+00)		PCI/SA	A	1.16E+00	2.54E+00		82%	
Calc	TF	AIR	HX81W1AD	RA-228	8.29E+01	(1.28E+01)		PCI/SA	R	1.09E+01	2.41E+01		82%	
Calc	TF	AIR	HX81X1AD	RA-228	2.65E+00	(8.40E-01)		PCI/SA	R	1.08E+00	2.56E+00		91%	
Calc	TF	AIR	HX81X1AD	RA-228	1.96E+00	(8.12E-01)		PCI/SA	R	1.20E+00	2.84E+00		91%	
Calc	TF	AIR	HX81X1AD	RA-228	9.05E-01	(7.36E-01)	U4	PCI/SA	R	1.33E+00	3.15E+00		91%	
Calc	TF	AIR	HX81X1AD	RA-228	1.84E+00	(4.60E-01)		PCI/SA	A	6.96E-01	1.65E+00		91%	
Calc	TF	AIR	HX81X1AD	RA-228	-1.40E+00	(3.16E+00)	U4	PCI/SA	R	7.35E+00	1.72E+01		91%	
Calc	TF	AIR	HX8111AD	RA-228	2.11E+00	(7.95E-01)		PCI/SA	R	1.19E+00	2.76E+00		94%	
Calc	TF	AIR	HX8111AD	RA-228	1.11E+00	(7.39E-01)	U4	PCI/SA	R	1.32E+00	3.06E+00		94%	
Calc	TF	AIR	HX8111AD	RA-228	1.57E+00	(8.60E-01)		PCI/SA	R	1.47E+00	3.39E+00		94%	

() - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC- Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significance

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:39

RADCALC v4.8.21

STL Richland

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	AIR	HX8111AD	RA-228	1.60E+00	(4.62E-01)		PCI/SA	A	7.66E-01	1.77E+00		94%	
Calc	TF	AIR	HX8111AD	RA-228	-3.06E+00	(3.15E+00)	U4	PCI/SA	R	7.75E+00	1.79E+01		94%	
Calc	TF	AIR	HX8121AD	RA-228	4.62E+00	(1.42E+00)		PCI/SA	R	1.89E+00	4.41E+00		57%	
Calc	TF	AIR	HX8121AD	RA-228	4.87E+00	(1.55E+00)		PCI/SA	R	2.10E+00	4.89E+00		57%	
Calc	TF	AIR	HX8121AD	RA-228	4.00E+00	(1.55E+00)		PCI/SA	R	2.33E+00	5.42E+00		57%	
Calc	TF	AIR	HX8121AD	RA-228	4.50E+00	(8.71E-01)		PCI/SA	A	1.22E+00	2.83E+00		57%	
Calc	TF	AIR	HX8121AD	RA-228	7.04E+00	(6.26E+00)	U4	PCI/SA	R	1.17E+01	2.73E+01		57%	
Calc	TF	AIR	HX8131AD	RA-228	2.29E+00	(7.96E-01)		PCI/SA	R	1.07E+00	2.55E+00		88%	
Calc	TF	AIR	HX8131AD	RA-228	5.57E-01	(6.24E-01)	U4	PCI/SA	R	1.19E+00	2.83E+00		88%	
Calc	TF	AIR	HX8131AD	RA-228	2.63E+00	(9.57E-01)		PCI/SA	R	1.32E+00	3.14E+00		88%	
Calc	TF	AIR	HX8131AD	RA-228	1.82E+00	(4.64E-01)		PCI/SA	A	6.90E-01	1.64E+00		88%	
Calc	TF	AIR	HX8131AD	RA-228	4.71E+00	(4.08E+00)	U4	PCI/SA	R	7.59E+00	1.77E+01		88%	
Calc	TF	AIR	HX8141AD	RA-228	2.81E+00	(8.85E-01)		PCI/SA	R	1.15E+00	2.70E+00		81%	
Calc	TF	AIR	HX8141AD	RA-228	1.26E+00	(7.52E-01)		PCI/SA	R	1.27E+00	3.00E+00		81%	
Calc	TF	AIR	HX8141AD	RA-228	2.71E+00	(9.99E-01)		PCI/SA	R	1.41E+00	3.33E+00		81%	
Calc	TF	AIR	HX8141AD	RA-228	2.26E+00	(5.10E-01)		PCI/SA	A	7.36E-01	1.74E+00		81%	
Calc	TF	AIR	HX8141AD	RA-228	1.01E+01	(5.27E+00)		PCI/SA	R	9.09E+00	2.07E+01		81%	
Calc	TF	AIR	HX8151AD	RA-228	2.52E+00	(8.39E-01)		PCI/SA	R	1.15E+00	2.69E+00		82%	
Calc	TF	AIR	HX8151AD	RA-228	1.35E+00	(7.57E-01)		PCI/SA	R	1.28E+00	2.98E+00		82%	
Calc	TF	AIR	HX8151AD	RA-228	1.67E+00	(8.62E-01)		PCI/SA	R	1.41E+00	3.31E+00		82%	
Calc	TF	AIR	HX8151AD	RA-228	1.85E+00	(4.74E-01)		PCI/SA	A	7.39E-01	1.73E+00		82%	
Calc	TF	AIR	HX8151AD	RA-228	4.86E+00	(4.35E+00)	U4	PCI/SA	R	8.27E+00	1.90E+01		82%	
Calc	TF	AIR	HX8161AD	RA-228	2.04E+01	(2.64E+00)		PCI/SA	R	9.92E-01	2.32E+00		101%	
Calc	TF	AIR	HX8161AD	RA-228	2.43E+01	(3.10E+00)		PCI/SA	R	1.10E+00	2.57E+00		101%	
Calc	TF	AIR	HX8161AD	RA-228	2.03E+01	(2.75E+00)		PCI/SA	R	1.22E+00	2.85E+00		101%	
Calc	TF	AIR	HX8161AD	RA-228	2.17E+01	(1.64E+00)		PCI/SA	A	6.38E-01	1.49E+00		101%	
Calc	TF	AIR	HX8161AD	RA-228	9.26E+01	(1.30E+01)		PCI/SA	R	6.62E+00	1.54E+01		101%	
Calc	TF	AIR	HX8171AD	RA-228	8.45E-01	(7.93E-01)	U4	PCI/SA	R	1.51E+00	3.49E+00		69%	
Calc	TF	AIR	HX8171AD	RA-228	-2.47E-01	(7.30E-01)	U4	PCI/SA	R	1.67E+00	3.88E+00		69%	
Calc	TF	AIR	HX8171AD	RA-228	-7.12E-01	(7.51E-01)	U4	PCI/SA	R	1.85E+00	4.30E+00		69%	
Calc	TF	AIR	HX8171AD	RA-228	-3.78E-02	(4.38E-01)	U4	PCI/SA	A	9.69E-01	2.25E+00		69%	
Calc	TF	AIR	HX8171AD	RA-228	6.23E+00	(5.72E+00)	U4	PCI/SA	R	1.11E+01	2.51E+01		69%	
Calc	TF	AIR	HX8181AD	RA-228	5.92E-01	(5.86E-01)	U4	PCI/SA	R	1.12E+00	2.59E+00		94%	
Calc	TF	AIR	HX8181AD	RA-228	3.75E-01	(6.17E-01)	U4	PCI/SA	R	1.24E+00	2.87E+00		94%	
Calc	TF	AIR	HX8181AD	RA-228	8.86E-01	(7.40E-01)	U4	PCI/SA	R	1.38E+00	3.18E+00		94%	
Calc	TF	AIR	HX8181AD	RA-228	6.18E-01	(3.76E-01)	U4	PCI/SA	A	7.21E-01	1.66E+00		94%	
Calc	TF	AIR	HX8181AD	RA-228	-4.41E+00	(2.94E+00)	U4	PCI/SA	R	7.64E+00	1.75E+01		94%	
Calc	TF	AIR	H0ERC1AA	RA-228	9.39E-02	(1.45E-01)	U4	PCI/SA	R	2.93E-01	6.71E-01	B	99%	
Calc	TF	AIR	H0ERC1AA	RA-228	-3.55E-02	(1.45E-01)	U4	PCI/SA	R	3.25E-01	7.45E-01	B	99%	

() - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC - Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 2

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significance

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:78

RADCALC v4.8.21

STL Richland

Alpha Beta, Ra-228 by GPC , Results
Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	AIR	H0ERC1AA	RA-228	2.32E-01	(1.92E-01)	U4	PCI/SA	R	3.61E-01	8.26E-01	B	99%	
Calc	TF	AIR	H0ERC1AA	RA-228	9.67E-02	(9.37E-02)	U4	PCI/SA	A	1.88E-01	4.31E-01	B	99%	
Calc	TF	AIR	H0ERC1AA	RA-228	9.10E-01	(9.02E-01)	U4	PCI/SA	R	1.74E+00	4.00E+00	B	99%	
Calc	TF	AIR	H0ERC1AC	RA-228	4.37E+00	(6.01E-01)		PCI/SA	R	2.96E-01	6.88E-01	S	86%	86%
Calc	TF	AIR	H0ERC1AC	RA-228	3.78E+00	(5.59E-01)		PCI/SA	R	3.28E-01	7.63E-01	S	86%	74%
Calc	TF	AIR	H0ERC1AC	RA-228	3.49E+00	(5.48E-01)		PCI/SA	R	3.64E-01	8.47E-01	S	86%	69%
Calc	TF	AIR	H0ERC1AC	RA-228	3.88E+00	(3.29E-01)		PCI/SA	A	1.90E-01	4.42E-01	S	86%	76%
Calc	TF	AIR	H0ERC1AC	RA-228	3.78E+00	(1.82E+00)		PCI/SA	R	3.33E+00	7.28E+00	S	86%	74%

P. Anderson
4-12-06

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC - Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 3

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significance
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:85
 RADCALC v4.8.21
 STL Richland

Batch Nbr: 6060344

Alpha Beta, Ra-228 by GPC , Calculated Results
Detailed Report

4/12/2006 8:12:37 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	TF	AIR	*STLE	Ra228WoBS	HX81N1AD	PCI/SA		02/05/06 06:00	04/12/06 06:41	04/03/06 11:40	RATA21346	1	1.00 Sa				
536403,P 0510					J6B270158-1 v4.8.21		AIR			30.3	04/11/06 09:57	RATA21346 Alq	99%	0.251111 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/11/06 14:19	RA-228	40	255	GPC7A	1	N	N	5.1990E-01	1.0000E+00	N	88%	N		1.5669E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.201E-02)	(0.000E+00)		7%			(0.000E+00)	3.982304		
1	04/11/06 15:14	RA-228	37	255	GPC7A	1	N	N	5.1990E-01	1.0000E+00	N	88%	N		1.7383E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.201E-02)	(0.000E+00)		7%			(0.000E+00)	3.982304		
2	04/11/06 16:10	RA-228	49	255	GPC7A	1	N	N	5.1990E-01	1.0000E+00	N	88%	N		1.9284E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.201E-02)	(0.000E+00)		7%			(0.000E+00)	3.982304		
3	04/12/06 06:41	RA-228	57	302	GPC7A	1	N	N	5.1990E-01	1.0000E+00	N	88%	N		9.9130E+00	4.5045E-01	1.0190E+00	
			50	400			N		(1.201E-02)	(0.000E+00)		7%			(0.000E+00)	3.982304		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/12/06	RA-228	R	0.383259	U4	6.08696E-02	0.209663	0.209663	1.00 Sa	88%		3.901023						
				(0.848965)		(1.3469E-01)	(0.464276)	(0.464276)	(0.027062)			1.780937						
	04/12/06	RA-228	R	0.006074	U4	8.69565E-04	0.003323	0.003323	1.00 Sa	88%		4.327643						
				(0.909186)		(1.3016E-01)	(0.497373)	(0.497373)	(0.027062)			1.975702						
	04/12/06	RA-228	R	1.866523	U4	2.40870E-01	1.021087	1.021087	1.00 Sa	88%		4.801069						
				(1.158024)		(1.4745E-01)	(0.630835)	(0.630835)	(0.027062)			2.191835						
	04/12/06	RA-228	A	0.751952	U4	1.00870E-01	0.411357	0.411357	1.00 Sa	88%		2.507574						
				(0.566508)		(7.9462E-02)	(0.30928)	(0.30928)	(0.015624)			1.144784						
	04/12/06	RA-228	R	15.335877		3.85000E-01	8.389535	8.389535	1.00 Sa	88%		24.919867						
				(6.44692)		(1.5712E-01)	(3.494403)	(3.494403)	(0.027062)			11.387209						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	TF	AIR	*STLE	Ra228WoBS	HX81Q1AD	PCI/SA		02/05/06 06:35	04/12/06 06:41	04/03/06 11:40	RATA21347	1	1.00 Sa				
536403,P 0511					J6B270158-2 v4.8.21		AIR			29.1	04/11/06 09:57	RATA21347 Alq	91%	0.250217 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/11/06 14:19	RA-228	44	251	GPC7B	1	N	N	5.2319E-01	1.0000E+00	N	77%	N		1.5669E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.266E-02)	(0.000E+00)		6%			(0.000E+00)	3.996529		
1	04/11/06 15:14	RA-228	51	251	GPC7B	1	N	N	5.2319E-01	1.0000E+00	N	77%	N		1.7383E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.266E-02)	(0.000E+00)		6%			(0.000E+00)	3.996529		
2	04/11/06 16:10	RA-228	45	251	GPC7B	1	N	N	5.2319E-01	1.0000E+00	N	77%	N		1.9284E+00	4.5045E-01	1.0190E+00	
			50	345			Y		(1.266E-02)	(0.000E+00)		6%			(0.000E+00)	3.996529		

Page 1

RecCnt:2

RADCALC v4.8.21

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

STL Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2

RADCALC v4.8.21

STL Richland

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:37 AM						
3	04/12/06 06:41	RA-228	41	292	GPC7B 1	N	N	5.2319E-01	1.0000E+00	N	77%	N	9.9130E+00	4.5045E-01	1.0190E+00					
			50	400		N		(1.266E-02)	(0.000E+00)		6%		(0.000E+00)	3.996529						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC						
	04/12/06	RA-228	R	1.085425	U4	1.52464E-01	0.591676	0.591676	1.00 Sa	77%		4.37913								
				(1.005459)		(1.4039E-01)	(0.547053)	(0.547053)	(0.027062)			1.99782								
	04/12/06	RA-228	R	2.30982		2.92464E-01	1.259106	1.259106	1.00 Sa	77%		4.858036								
				(1.207687)		(1.5003E-01)	(0.654419)	(0.654419)	(0.027062)			2.216304								
	04/12/06	RA-228	R	1.51109	U4	1.72464E-01	0.823711	0.823711	1.00 Sa	77%		5.389485								
				(1.251823)		(1.4181E-01)	(0.680773)	(0.680773)	(0.027062)			2.458758								
	04/12/06	RA-228	A	1.635445		2.05797E-01	0.891498	0.891498	1.00 Sa	77%		2.8149								
				(0.669703)		(8.3218E-02)	(0.363774)	(0.363774)	(0.015624)			1.284197								
	04/12/06	RA-228	R	4.053512	U4	9.00000E-02	2.20961	2.20961	1.00 Sa	77%		27.746816								
				(6.094059)		(1.3500E-01)	(3.319557)	(3.319557)	(0.027062)			12.660367								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol					
3	Calc	TF	AIR	*STLE	Ra228WoBS	HX81R1AD	PCI/SA		02/05/06 07:15	04/12/06 06:41	04/03/06 11:40	RATA21348	1	1.00 Sa						
536403	P	0512			J6B270158-3 v4.8.21		AIR			30.3	04/11/06 09:57	RATA21348 Aliq	115%	0.250795 Sa						
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn		
0	04/11/06 14:19	RA-228	39	279	GPC7C	1	N	N	5.0716E-01	1.0000E+00	N	101%	N	1.5669E+00	4.5045E-01	1.0190E+00				
			50	345			Y		(1.091E-02)	(0.000E+00)		8%		(0.000E+00)	3.987326					
1	04/11/06 15:14	RA-228	34	279	GPC7C	1	N	N	5.0716E-01	1.0000E+00	N	101%	N	1.7383E+00	4.5045E-01	1.0190E+00				
			50	345			Y		(1.091E-02)	(0.000E+00)		8%		(0.000E+00)	3.987326					
2	04/11/06 16:10	RA-228	38	279	GPC7C	1	N	N	5.0716E-01	1.0000E+00	N	101%	N	1.9284E+00	4.5045E-01	1.0190E+00				
			50	345			Y		(1.091E-02)	(0.000E+00)		8%		(0.000E+00)	3.987326					
3	04/12/06 06:41	RA-228	41	316	GPC7C	1	N	N	5.0716E-01	1.0000E+00	N	101%	N	9.9130E+00	4.5045E-01	1.0190E+00				
			50	400			N		(1.091E-02)	(0.000E+00)		8%		(0.000E+00)	3.987326					
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC						
	04/12/06	RA-228	R	-0.162268	U4	-2.86957E-02	-0.088659	-0.088659	1.00 Sa	101%		3.650584								
				(0.757668)		(1.3396E-01)	(0.413939)	(0.413939)	(0.027062)			1.67304								
	04/12/06	RA-228	R	-0.807337	U4	-1.28696E-01	-0.441107	-0.441107	1.00 Sa	101%		4.049816								
				(0.796261)		(1.2627E-01)	(0.434332)	(0.434332)	(0.027062)			1.856006								
	04/12/06	RA-228	R	-0.338897	U4	-4.86957E-02	-0.185164	-0.185164	1.00 Sa	101%		4.492849								
				(0.92244)		(1.3245E-01)	(0.503887)	(0.503887)	(0.027062)			2.059045								
	04/12/06	RA-228	A	-0.436167	U4	-6.86957E-02	-0.23831	-0.23831	1.00 Sa	101%		2.346592								
				(0.478306)		(7.5596E-02)	(0.261171)	(0.261171)	(0.015624)			1.075429								
	04/12/06	RA-228	R	1.073236	U4	3.00000E-02	0.586387	0.586387	1.00 Sa	101%		22.849039								
				(4.850593)		(1.3555E-01)	(2.650024)	(2.650024)	(0.027062)			10.461241								
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU														Page 2			RecCnt:4		RADCALC v4.8.21	
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																	STL Richland			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																				

Batch Nbr: 6060344										Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:38 AM	
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
4	Calc	TF	AIR	*STLE	Ra228WoBS	HX81T1AD	PCI/SA		02/05/06 07:45	04/12/06 06:42	04/03/06 11:40	RATA21349	1	1.00 Sa							
536403,P 0513										29.6	04/11/06 09:57	RATA21349 Alq	98%	0.246263 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:19	RA-228	31	232	GPC1A	1	N	N	5.3295E-01	1.0000E+00	N	84%	N		1.5675E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.454E-02)	(0.000E+00)		7%			(0.000E+00)	4.060701					
1	04/11/06 15:14	RA-228	26	232	GPC1A	1	N	N	5.3295E-01	1.0000E+00	N	84%	N		1.7389E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.454E-02)	(0.000E+00)		7%			(0.000E+00)	4.060701					
2	04/11/06 16:10	RA-228	31	232	GPC1A	1	N	N	5.3295E-01	1.0000E+00	N	84%	N		1.9291E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.454E-02)	(0.000E+00)		7%			(0.000E+00)	4.060701					
3	04/12/06 06:42	RA-228	27	270	GPC1A	1	N	N	5.3295E-01	1.0000E+00	N	84%	N		9.9220E+00	4.5045E-01	1.0190E+00				
			50	400			N		(1.454E-02)	(0.000E+00)		7%			(0.000E+00)	4.060701					
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC							
	04/12/06	RA-228	R	0.260093	U4	4.00000E-02	0.139541	0.139541	1.00 Sa	84%			3.608918								
				(0.76569)		(1.1769E-01)	(0.410719)	(0.410719)	(0.027062)				1.629213								
	04/12/06	RA-228	R	-0.432805	U4	-6.00000E-02	-0.232202	-0.232202	1.00 Sa	84%			4.003593								
				(0.786473)		(1.0886E-01)	(0.421739)	(0.421739)	(0.027062)				1.807386								
	04/12/06	RA-228	R	0.320101	U4	4.00000E-02	0.171736	0.171736	1.00 Sa	84%			4.441569								
				(0.942351)		(1.1769E-01)	(0.505481)	(0.505481)	(0.027062)				2.005106								
	04/12/06	RA-228	A	0.04913	U4	6.66667E-03	0.026358	0.026358	1.00 Sa	84%			2.319809								
				(0.482222)		(6.6291E-02)	(0.258643)	(0.258643)	(0.015624)				1.047257								
	04/12/06	RA-228	R	-5.556514	U4	-1.35000E-01	-2.981093	-2.981093	1.00 Sa	84%			24.468468								
				(4.634154)		(1.1175E-01)	(2.480459)	(2.480459)	(0.027062)				11.125421								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
5	Calc	TF	AIR	*STLE	Ra228WoBS	HX81V1AD	PCI/SA		02/05/06 08:15	04/12/06 06:42	04/03/06 11:40	RATA21350	1	1.00 Sa							
536403,P 0514										30.9	04/11/06 09:57	RATA21350 Alq	108%	0.251492 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:19	RA-228	41	216	GPC1C	1	N	N	5.2188E-01	1.0000E+00	N	97%	N		1.5675E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.168E-02)	(0.000E+00)		8%			(0.000E+00)	3.976263					
1	04/11/06 15:14	RA-228	36	216	GPC1C	1	N	N	5.2188E-01	1.0000E+00	N	97%	N		1.7389E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.168E-02)	(0.000E+00)		8%			(0.000E+00)	3.976263					
2	04/11/06 16:10	RA-228	35	216	GPC1C	1	N	N	5.2188E-01	1.0000E+00	N	97%	N		1.9291E+00	4.5045E-01	1.0190E+00				
			50	400			Y		(1.168E-02)	(0.000E+00)		8%			(0.000E+00)	3.976263					
3	04/12/06 06:42	RA-228	33	209	GPC1C	1	N	N	5.2188E-01	1.0000E+00	N	97%	N		9.9220E+00	4.5045E-01	1.0190E+00				
			50	400			N		(1.168E-02)	(0.000E+00)		8%			(0.000E+00)	3.976263					

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 3

RecCnt:5RADCALC v4.8.21

STL Richland

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:38 AM				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
04/12/06	RA-228	R	1.580154 (0.768508)			2.80000E-01 (1.3323E-01)	0.865768 (0.418179)	0.865768 (0.418179)	1.00 Sa (0.027062)	97%		3.033005 1.364376						
04/12/06	RA-228	R	1.126904 (0.793843)		U4	1.80000E-01 (1.2550E-01)	0.617432 (0.433528)	0.617432 (0.433528)	1.00 Sa (0.027062)	97%		3.364698 1.513586						
04/12/06	RA-228	R	1.111273 (0.867749)		U4	1.60000E-01 (1.2390E-01)	0.608868 (0.474179)	0.608868 (0.474179)	1.00 Sa (0.027062)	97%		3.732782 1.679166						
04/12/06	RA-228	A	1.272777 (0.468304)			2.06667E-01 (7.3673E-02)	0.697356 (0.255531)	0.697356 (0.255531)	1.00 Sa (0.015624)	97%		1.949613 0.87702						
04/12/06	RA-228	R	4.911846 (4.330805)		U4	1.37500E-01 (1.2044E-01)	2.691205 (2.367914)	2.691205 (2.367914)	1.00 Sa (0.027062)	97%		18.916764 8.495346						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	TF	AIR	*STLE	Ra228WoBS	HX81W1AD	PCI/SA		02/05/06 08:40	04/12/06 06:42	04/03/06 11:40	RATA21351	1	1.00 Sa				
536403,P 0515					J6B270158-6 v4.8.21		AIR			30.3	04/11/06 09:57	RATA21351 Aliq	93%	0.251007 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/11/06 14:19	RA-228	187	280	GPC1D	1	N	N	5.3202E-01	1.0000E+00	N	82%	N	1.5675E+00	4.5045E-01	1.0190E+00		
			50	400			Y		(1.369E-02)	(0.000E+00)		7%		(0.000E+00)	3.983958			
1	04/11/06 15:14	RA-228	159	280	GPC1D	1	N	N	5.3202E-01	1.0000E+00	N	82%	N	1.7389E+00	4.5045E-01	1.0190E+00		
			50	400			Y		(1.369E-02)	(0.000E+00)		7%		(0.000E+00)	3.983958			
2	04/11/06 16:10	RA-228	151	280	GPC1D	1	N	N	5.3202E-01	1.0000E+00	N	82%	N	1.9291E+00	4.5045E-01	1.0190E+00		
			50	400			Y		(1.369E-02)	(0.000E+00)		7%		(0.000E+00)	3.983958			
3	04/12/06 06:42	RA-228	132	256	GPC1D	1	N	N	5.3202E-01	1.0000E+00	N	82%	N	9.9220E+00	4.5045E-01	1.0190E+00		
			50	400			N		(1.369E-02)	(0.000E+00)		7%		(0.000E+00)	3.983958			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
04/12/06	RA-228	R	19.910888 (2.713847)			3.04000E+00 (2.7668E-01)	10.888186 (1.348783)	10.888186 (1.348783)	1.00 Sa (0.027062)	82%		3.958569 1.80286						
04/12/06	RA-228	R	18.019455 (2.606271)			2.48000E+00 (2.5564E-01)	9.853864 (1.310503)	9.853864 (1.310503)	1.00 Sa (0.027062)	82%		4.391482 2.000023						
04/12/06	RA-228	R	18.700985 (2.763781)			2.32000E+00 (2.4930E-01)	10.226555 (1.395051)	10.226555 (1.395051)	1.00 Sa (0.027062)	82%		4.871892 2.218817						
04/12/06	RA-228	A	18.877109 (1.55621)			2.61333E+00 (1.5057E-01)	10.322868 (0.780513)	10.322868 (0.780513)	1.00 Sa (0.015624)	82%		2.544564 1.158877						
04/12/06	RA-228	R	82.917774 (12.817273)			2.00000E+00 (2.3324E-01)	45.343237 (6.51777)	45.343237 (6.51777)	1.00 Sa (0.027062)	82%		24.058072 10.911979						
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																		
Page 4												RecCnt:7		RADCALC v4.8.21				
														STL Richland				

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:38 AM							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
7	Calc	TF	AIR	*STLE	Ra228WoBS	HX81X1AD	PCI/SA		02/05/06 06:10	04/12/06 06:42	04/03/06 11:40	RATA21352	1	1.00 Sa							
536403,P 0516					J6B270158-7 v4.8.21		AIR			30.8	04/11/06 09:57	RATA21352 Aliq	102%,	0.250452 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:19	RA-228	28	80	GPC2A	1	N	N	4.2799E-01	1.0000E+00	N	91%	N	1.5680E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.185E-02)	(0.000E+00)		7%		(0.000E+00)	3.99278						
1	04/11/06 15:15	RA-228	22	80	GPC2A	1	N	N	4.2799E-01	1.0000E+00	N	91%	N	1.7395E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.185E-02)	(0.000E+00)		7%		(0.000E+00)	3.99278						
2	04/11/06 16:10	RA-228	15	80	GPC2A	1	N	N	4.2799E-01	1.0000E+00	N	91%	N	1.9298E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.185E-02)	(0.000E+00)		7%		(0.000E+00)	3.99278						
3	04/12/06 06:42	RA-228	10	92	GPC2A	1	N	N	4.2799E-01	1.0000E+00	N	91%	N	9.9322E+00	4.5045E-01	1.0190E+00					
			50	400			N		(1.185E-02)	(0.000E+00)		7%		(0.000E+00)	3.99278						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC							
	04/12/06	RA-228	R	2.648467		3.60000E-01	1.445053	1.445053	1.00 Sa	91%		2.562332									
				(0.840346)		(1.0817E-01)	(0.451088)	(0.451088)	(0.027062)			1.082438									
	04/12/06	RA-228	R	1.958799		2.40000E-01	1.068757	1.068757	1.00 Sa	91%		2.84264									
				(0.812032)		(9.6437E-02)	(0.438874)	(0.438874)	(0.027062)			1.200852									
	04/12/06	RA-228	R	0.905423	U4	1.00000E-01	0.494016	0.494016	1.00 Sa	91%		3.153514									
				(0.735791)		(8.0623E-02)	(0.400478)	(0.400478)	(0.027062)			1.332179									
	04/12/06	RA-228	A	1.837563		2.33333E-01	1.002609	1.002609	1.00 Sa	91%		1.647081									
				(0.46031)		(5.5277E-02)	(0.248657)	(0.248657)	(0.015624)			0.695797									
	04/12/06	RA-228	R	-1.398019	U4	-3.00000E-02	-0.762785	-0.762785	1.00 Sa	91%		17.222584									
				(3.155231)		(6.7639E-02)	(1.721007)	(1.721007)	(0.027062)			7.352781									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
8	Calc	TF	AIR	*STLE	Ra228WoBS	HX8111AD	PCI/SA		02/05/06 06:15	04/12/06 06:42	04/03/06 11:40	RATA21353	1	1.00 Sa							
536403,P 0517					J6B270158-8 v4.8.21		AIR			30.5	04/11/06 09:57	RATA21353 Aliq	106%,	0.249314 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:19	RA-228	29	110	GPC2B	1	N	N	4.4556E-01	1.0000E+00	N	94%	N	1.5680E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.051E-02)	(0.000E+00)		8%		(0.000E+00)	4.011006						
1	04/11/06 15:15	RA-228	21	110	GPC2B	1	N	N	4.4556E-01	1.0000E+00	N	94%	N	1.7395E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.051E-02)	(0.000E+00)		8%		(0.000E+00)	4.011006						
2	04/11/06 16:10	RA-228	23	110	GPC2B	1	N	N	4.4556E-01	1.0000E+00	N	94%	N	1.9298E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.051E-02)	(0.000E+00)		8%		(0.000E+00)	4.011006						
3	04/12/06 06:42	RA-228	11	116	GPC2B	1	N	N	4.4556E-01	1.0000E+00	N	94%	N	9.9322E+00	4.5045E-01	1.0190E+00					
			50	400			N		(1.051E-02)	(0.000E+00)		8%		(0.000E+00)	4.011006						
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU														Page 5				RecCnt:8		RADCALC v4.8.21	
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																				STL Richland	
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																					

Batch Nbr: 6060344														Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:38 AM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BkLcC/MDC	StdDvMdc/LcC											
	04/12/06	RA-228	R	2.107118 (0.794797)		3.05000E-01 (1.1085E-01)	1.14446 (0.426754)	1.14446 (0.426754)	1.00 Sa (0.027062)	94%			2.756893 1.191931												
	04/12/06	RA-228	R	1.111331 (0.739192)	U4	1.45000E-01 (9.5328E-02)	0.603609 (0.400015)	0.603609 (0.400015)	1.00 Sa (0.027062)	94%			3.058485 1.322324												
	04/12/06	RA-228	R	1.572969 (0.860237)		1.85000E-01 (9.9436E-02)	0.854343 (0.464698)	0.854343 (0.464698)	1.00 Sa (0.027062)	94%			3.392964 1.466934												
	04/12/06	RA-228	A	1.597139 (0.461653)		2.11667E-01 (5.8937E-02)	0.867471 (0.249015)	0.867471 (0.249015)	1.00 Sa (0.015624)	94%			1.772146 0.76618												
	04/12/06	RA-228	R	-3.06328 (3.148044)	U4	-7.00000E-02 (7.1589E-02)	-1.663791 (1.70721)	-1.663791 (1.70721)	1.00 Sa (0.027062)	94%			17.869141 7.753247												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol										
9	Calc	TF	AiR	*STLE	Ra228WoBS	HX8121AD	PCI/SA		02/05/06 06:05	04/12/06 06:42	04/03/06 11:40	RATA21354	1	1.00 Sa											
536403,000357					J6B270158-9 v4.8.21		AiR		21.0		04/11/06 09:57	RATA21354 Aliq	94%	0.248015 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Bk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/11/06 14:19	RA-228	33	102	GPC2C	1	N	N	4.4468E-01	1.0000E+00	N	57%	N	1.5680E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(9.672E-03)	(0.000E+00)		5%		(0.000E+00)	4.032011										
1	04/11/06 15:15	RA-228	32	102	GPC2C	1	N	N	4.4468E-01	1.0000E+00	N	57%	N	1.7395E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(9.672E-03)	(0.000E+00)		5%		(0.000E+00)	4.032011										
2	04/11/06 16:10	RA-228	27	102	GPC2C	1	N	N	4.4468E-01	1.0000E+00	N	57%	N	1.9298E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(9.672E-03)	(0.000E+00)		5%		(0.000E+00)	4.032011										
3	04/12/06 06:42	RA-228	17	97	GPC2C	1	N	N	4.4468E-01	1.0000E+00	N	57%	N	9.9322E+00	4.5045E-01	1.0190E+00									
			50	400			N		(9.672E-03)	(0.000E+00)		5%		(0.000E+00)	4.032011										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BkLcC/MDC	StdDvMdc/LcC											
	04/12/06	RA-228	R	4.619238 (1.419749)		4.05000E-01 (1.1763E-01)	2.495818 (0.753866)	2.495818 (0.753866)	1.00 Sa (0.027062)	57%			4.405686 1.894878												
	04/12/06	RA-228	R	4.871499 (1.546358)		3.85000E-01 (1.1592E-01)	2.632116 (0.822001)	2.632116 (0.822001)	1.00 Sa (0.027062)	57%			4.887649 2.10217												
	04/12/06	RA-228	R	4.000549 (1.55414)		2.85000E-01 (1.0695E-01)	2.161534 (0.830675)	2.161534 (0.830675)	1.00 Sa (0.027062)	57%			5.422168 2.332066												
	04/12/06	RA-228	A	4.497095 (0.870649)		3.58333E-01 (6.5585E-02)	2.429823 (0.463564)	2.429823 (0.463564)	1.00 Sa (0.015624)	57%			2.832 1.218039												
	04/12/06	RA-228	R	7.044005 (6.25767)	U4	9.75000E-02 (8.6060E-02)	3.805942 (3.374147)	3.805942 (3.374147)	1.00 Sa (0.027062)	57%			27.311597 11.704876												
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									
Page 6												RecCnt:10		RADCALC v4.8.21											
														STL Richland											

Batch Nbr: 6060344

Alpha Beta, Ra-228 by GPC , Calculated Results

4/12/2006 8:12:38 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
10	Calc	TF	AIR	*STLE	Ra228WoBS	HX8131AD	PCI/SA		02/05/06 06:40	04/12/06 06:42	04/03/06 11:40	RATA21355	1	1.00 Sa					
					J6B270158-10 v4.8.21		AIR		30.8		04/11/06 09:57	RATA21355 Alq	99%	0.250499 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/11/06 14:19	RA-228	25	77	GPC2D	1	N	N	4.3813E-01	1.0000E+00	N	88%	N		1.5680E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	3.992037		
1		04/11/06 15:15	RA-228	13	77	GPC2D	1	N	N	4.3813E-01	1.0000E+00	N	88%	N		1.7395E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	3.992037		
2		04/11/06 16:10	RA-228	24	77	GPC2D	1	N	N	4.3813E-01	1.0000E+00	N	88%	N		1.9298E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	3.992037		
3		04/12/06 06:42	RA-228	17	96	GPC2D	1	N	N	4.3813E-01	1.0000E+00	N	88%	N		9.9322E+00	4.5045E-01	1.0190E+00	
				50	400			N		(1.310E-02)	(0.000E+00)		7%			(0.000E+00)	3.992037		
Sq	Calc	Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EntFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/12/06		RA-228	R	2.285646		3.07500E-01	1.247332	1.247332	1.00 Sa	88%			2.547472					
					(0.796286)		(1.0238E-01)	(0.428727)	(0.428727)	(0.027062)				1.072939					
	04/12/06		RA-228	R	0.556614	U4	6.75000E-02	0.303758	0.303758	1.00 Sa	88%			2.826155					
					(0.624162)		(7.5374E-02)	(0.340182)	(0.340182)	(0.027062)				1.190314					
	04/12/06		RA-228	R	2.630032		2.87500E-01	1.435272	1.435272	1.00 Sa	88%			3.135226					
					(0.957316)		(1.0041E-01)	(0.516018)	(0.516018)	(0.027062)				1.320488					
	04/12/06		RA-228	A	1.824097		2.20833E-01	0.995454	0.995454	1.00 Sa	88%			1.63753					
					(0.464292)		(5.4000E-02)	(0.250734)	(0.250734)	(0.015624)				0.689691					
	04/12/06		RA-228	R	4.708293	U4	1.00000E-01	2.569429	2.569429	1.00 Sa	88%			17.7202					
					(4.07893)		(8.6023E-02)	(2.221172)	(2.221172)	(0.027062)				7.588659					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
11	Calc	TF	AIR	*STLE	Ra228WoBS	HX8141AD	PCI/SA		02/05/06 07:20	04/12/06 06:43	04/03/06 11:40	RATA21356	1	1.00 Sa					
					J6B270158-11 v4.8.21		AIR		25.1		04/11/06 09:57	RATA21356 Alq	111%	0.249764 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/11/06 14:20	RA-228	29	84	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	81%	N		1.5687E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.324E-02)	(0.000E+00)		6%			(0.000E+00)	4.003779		
1		04/11/06 15:15	RA-228	18	84	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	81%	N		1.7403E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.324E-02)	(0.000E+00)		6%			(0.000E+00)	4.003779		
2		04/11/06 16:10	RA-228	25	84	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	81%	N		1.9307E+00	4.5045E-01	1.0190E+00	
				50	400			Y		(1.324E-02)	(0.000E+00)		6%			(0.000E+00)	4.003779		
3		04/12/06 06:43	RA-228	28	138	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	81%	N		9.9444E+00	4.5045E-01	1.0190E+00	
				50	400			N		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	4.003779		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																			
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																			

Batch Nbr: 6060344														Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:39 AM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/12/06	RA-228	R	2.811406 (0.884595)		3.70000E-01 (1.1011E-01)	1.529766 (0.473411)	1.529766 (0.473411)	1.00 Sa (0.027062)	81%			2.701643 1.145585												
	04/12/06	RA-228	R	1.264444 (0.752069)		1.50000E-01 (8.7892E-02)	0.68802 (0.407349)	0.68802 (0.407349)	1.00 Sa (0.027062)	81%			2.997191 1.270907												
	04/12/06	RA-228	R	2.71202 (0.998605)		2.90000E-01 (1.0259E-01)	1.475688 (0.536853)	1.475688 (0.536853)	1.00 Sa (0.027062)	81%			3.325071 1.409939												
	04/12/06	RA-228	A	2.262623 (0.510482)		2.70000E-01 (5.8095E-02)	1.231158 (0.274522)	1.231158 (0.274522)	1.00 Sa (0.015624)	81%			1.736651 0.736397												
	04/12/06	RA-228	R	10.112029 (5.265939)		2.15000E-01 (1.0983E-01)	5.502245 (2.848221)	5.502245 (2.848221)	1.00 Sa (0.027062)	81%			20.715926 9.088774												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
12	Calc	TF	AIR	*STLE	Ra228WoBS	HX8151AD	PCI/SA		02/05/06 07:50	04/12/06 06:43	04/03/06 11:40	RATA21357	1	1.00 Sa											
536403,000360																									
J6B270158-12 v4.8.21																									
AIR																									
27.3																									
04/11/06 09:57																									
RATA21357 Alq 104% 0.251513 Sa																									
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/11/06 14:20	RA-228	29	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	82%	N	1.5687E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(1.181E-02)	(0.000E+00)		7%		(0.000E+00)	3.975941										
1	04/11/06 15:15	RA-228	20	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	82%	N	1.7403E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(1.181E-02)	(0.000E+00)		7%		(0.000E+00)	3.975941										
2	04/11/06 16:10	RA-228	21	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	82%	N	1.9307E+00	4.5045E-01	1.0190E+00									
			50	400			Y		(1.181E-02)	(0.000E+00)		7%		(0.000E+00)	3.975941										
3	04/12/06 06:43	RA-228	20	118	GPC3C	1	N	N	4.7587E-01	1.0000E+00	N	82%	N	9.9444E+00	4.5045E-01	1.0190E+00									
			50	400			N		(1.112E-02)	(0.000E+00)		7%		(0.000E+00)	3.975941										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/12/06	RA-228	R	2.518244 (0.839424)		3.47500E-01 (1.1037E-01)	1.379852 (0.453216)	1.379852 (0.453216)	1.00 Sa (0.027062)	82%			2.690627 1.14961												
	04/12/06	RA-228	R	1.346618 (0.757103)		1.67500E-01 (9.2635E-02)	0.737869 (0.412722)	0.737869 (0.412722)	1.00 Sa (0.027062)	82%			2.984971 1.275372												
	04/12/06	RA-228	R	1.672312 (0.862021)		1.87500E-01 (9.4769E-02)	0.91633 (0.469456)	0.91633 (0.469456)	1.00 Sa (0.027062)	82%			3.311514 1.414892												
	04/12/06	RA-228	A	1.845725 (0.473863)		2.34167E-01 (5.7488E-02)	1.01135 (0.257366)	1.01135 (0.257366)	1.00 Sa (0.015624)	82%			1.729571 0.738984												
	04/12/06	RA-228	R	4.858385 (4.352785)	U4	1.05000E-01 (9.3475E-02)	2.662114 (2.380268)	2.662114 (2.380268)	1.00 Sa (0.027062)	82%			19.034379 8.268173												
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																									
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																									
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									
Page 8													RecCnt:13		RADCALC v4.8.21										
													STL Richland												

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:39 AM							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
13	Calc	TF	AIR	*STLE	Ra228WoBS	HX8161AD	PCI/SA		02/05/06 08:20	04/12/06 06:43	04/03/06 11:40	RATA21358	1	1.00 Sa							
536403,000361					J6B270158-13 v4.8.21		AIR			30.4	04/11/06 09:57	RATA21358 Alq	114%	0.248297 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:20	RA-228	178	96	GPC3C	1	N	N	4.7122E-01	1.0000E+00	N	101%	N	1.5687E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.101E-02)	(0.000E+00)		8%		(0.000E+00)	4.027438						
1	04/11/06 15:15	RA-228	190	96	GPC3C	1	N	N	4.7122E-01	1.0000E+00	N	101%	N	1.7403E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.101E-02)	(0.000E+00)		8%		(0.000E+00)	4.027438						
2	04/11/06 16:10	RA-228	146	96	GPC3C	1	N	N	4.7122E-01	1.0000E+00	N	101%	N	1.9307E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.101E-02)	(0.000E+00)		8%		(0.000E+00)	4.027438						
3	04/12/06 06:43	RA-228	131	105	GPC3D	1	N	N	4.6803E-01	1.0000E+00	N	101%	N	9.9444E+00	4.5045E-01	1.0190E+00					
			50	400			N		(1.145E-02)	(0.000E+00)		8%		(0.000E+00)	4.027438						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC							
	04/12/06	RA-228	R	20.431478 (2.639701)		3.32000E+00 (2.6796E-01)	11.052195 (1.282231)	11.052195 (1.282231)	1.00 Sa (0.027062)	101%		2.316151 0.991889									
	04/12/06	RA-228	R	24.305145 (3.09565)		3.56000E+00 (2.7677E-01)	13.147615 (1.498468)	13.147615 (1.498468)	1.00 Sa (0.027062)	101%		2.569528 1.100398									
	04/12/06	RA-228	R	20.298761 (2.752902)		2.68000E+00 (2.4290E-01)	10.980404 (1.351982)	10.980404 (1.351982)	1.00 Sa (0.027062)	101%		2.850624 1.220777									
	04/12/06	RA-228	A	21.678461 (1.637394)		3.18667E+00 (1.5180E-01)	11.726738 (0.797035)	11.726738 (0.797035)	1.00 Sa (0.015624)	101%		1.488852 0.637599									
	04/12/06	RA-228	R	92.59967 (13.02249)		2.35750E+00 (2.3034E-01)	50.090828 (6.443059)	50.090828 (6.443059)	1.00 Sa (0.027062)	101%		15.362885 6.620919									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol						
14	Calc	TF	AIR	*STLE	Ra228WoBS	HX8171AD	PCI/SA		02/05/06 08:45	04/12/06 06:43	04/03/06 11:40	RATA21359	1	1.00 Sa							
536403,000362					J6B270158-14 v4.8.21		AIR			24.6	04/11/06 09:57	RATA21359 Alq	96%	0.249267 Sa							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn			
0	04/11/06 14:20	RA-228	18	106	GPC3D	1	N	N	4.7303E-01	1.0000E+00	N	69%	N	1.5687E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.158E-02)	(0.000E+00)		5%		(0.000E+00)	4.011757						
1	04/11/06 15:15	RA-228	12	106	GPC3D	1	N	N	4.7303E-01	1.0000E+00	N	69%	N	1.7403E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.158E-02)	(0.000E+00)		5%		(0.000E+00)	4.011757						
2	04/11/06 16:10	RA-228	10	106	GPC3D	1	N	N	4.7303E-01	1.0000E+00	N	69%	N	1.9307E+00	4.5045E-01	1.0190E+00					
			50	400			Y		(1.158E-02)	(0.000E+00)		5%		(0.000E+00)	4.011757						
3	04/12/06 06:43	RA-228	24	147	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	69%	N	9.9497E+00	4.5045E-01	1.0190E+00					
			50	400			N		(1.103E-02)	(0.000E+00)		5%		(0.000E+00)	4.011757						
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															Page 9			RecCnt:14		RADCALC v4.8.21	
																				STL Richland	

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:39 AM				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
04/12/06	RA-228	R	0.845123 (0.793436)	U4	9.50000E-02 (8.8671E-02)	0.45895 (0.43009)	0.45895 (0.43009)	1.00 Sa (0.027062)	69%			3.493695 1.50666						
04/12/06	RA-228	R	-0.246731 (0.729848)	U4	-2.50000E-02 (7.3909E-02)	-0.133989 (0.396276)	-0.133989 (0.396276)	1.00 Sa (0.027062)	69%			3.875891 1.671482						
04/12/06	RA-228	R	-0.711677 (0.751074)	U4	-6.50000E-02 (6.8283E-02)	-0.386481 (0.407284)	-0.386481 (0.407284)	1.00 Sa (0.027062)	69%			4.299897 1.854335						
04/12/06	RA-228	A	-0.037761 (0.437966)	U4	1.66667E-03 (4.4706E-02)	-0.020507 (0.237555)	-0.020507 (0.237555)	1.00 Sa (0.015624)	69%			2.245793 0.968501						
04/12/06	RA-228	R	6.234854 (5.718649)	U4	1.12500E-01 (1.0256E-01)	3.385882 (3.099581)	3.385882 (3.099581)	1.00 Sa (0.027062)	69%			25.097612 11.053462						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
15	Calc	TF	AIR	*STLE	Ra228WoBS	HX8181AD	PCI/SA		02/05/06 06:45	04/12/06 06:43	04/03/06 11:40	RATA21360	1	1.00 Sa				
536403,000363					J6B270158-15 v4.8.21		AIR			30.8	04/11/06 09:57	RATA21360 Alq	105%	0.250936 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/11/06 14:20	RA-228	19	103	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.5692E+00	4.5045E-01	1.0190E+00	
			50	359			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.985085		
1	04/11/06 15:15	RA-228	17	103	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.7408E+00	4.5045E-01	1.0190E+00	
			50	359			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.985085		
2	04/11/06 16:10	RA-228	20	103	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.9312E+00	4.5045E-01	1.0190E+00	
			50	359			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	3.985085		
3	04/12/06 06:43	RA-228	10	122	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	94%	N		9.9497E+00	4.5045E-01	1.0190E+00	
			50	400			N		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	3.985085		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
04/12/06	RA-228	R	0.592327 (0.586181)	U4	9.30919E-02 (9.1647E-02)	0.323811 (0.319922)	0.323811 (0.319922)	1.00 Sa (0.027062)	94%			2.586108 1.121287						
04/12/06	RA-228	R	0.37477 (0.616504)	U4	5.30919E-02 (8.7173E-02)	0.204878 (0.336827)	0.204878 (0.336827)	1.00 Sa (0.027062)	94%			2.869017 1.243951						
04/12/06	RA-228	R	0.885608 (0.739967)	U4	1.13092E-01 (9.3804E-02)	0.48414 (0.403585)	0.48414 (0.403585)	1.00 Sa (0.027062)	94%			3.182776 1.379991						
04/12/06	RA-228	A	0.617568 (0.375831)	U4	8.64253E-02 (5.2491E-02)	0.33761 (0.205124)	0.33761 (0.205124)	1.00 Sa (0.015624)	94%			1.662365 0.72077						
04/12/06	RA-228	R	-4.414494 (2.935287)	U4	-1.05000E-01 (6.9011E-02)	-2.413301 (1.598776)	-2.413301 (1.598776)	1.00 Sa (0.027062)	94%			17.54768 7.639016						
Page 10															RecCnt:16		RADCALC v4.8.21	
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MDC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																	STL Richland	

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results										4/12/2006 8:12:39 AM					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
16	Calc	TF	AIR	*STLE	Ra228WoBS	H0ERC1AA	PCI/SA	B	02/05/06 06:00	04/12/06 06:43	04/03/06 11:40	RATA21361	1	1.00 Sa					
O,INTRA-LAB BLANK					J6C010000-344		AIR			30.4	04/11/06 09:57	RATA21361 Aliq	112%	1.00 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/11/06 14:20	RA-228	19	115	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	99%	N		1.5692E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	1.00			
1	04/11/06 15:15	RA-228	15	115	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	99%	N		1.7408E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	1.00			
2	04/11/06 16:10	RA-228	22	115	GPC4B	1	N	N	4.6227E-01	1.0000E+00	N	99%	N		1.9312E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.048E-02)	(0.000E+00)		8%			(0.000E+00)	1.00			
3	04/12/06 06:43	RA-228	19	115	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	99%	N		9.9497E+00	4.5045E-01	1.0190E+00		
			50	400			N		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	1.00			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC					
	04/12/06	RA-228	R	0.093906	U4	5.96657E-02	0.204577	0.204577	1.00 Sa	99%			0.671089						
				(0.145333)		(9.2154E-02)	(0.316427)	(0.316427)	(0.017321)				0.293067						
	04/12/06	RA-228	R	-0.035505	U4	-2.03343E-02	-0.077348	-0.077348	1.00 Sa	99%			0.744503						
				(0.144999)		(8.3020E-02)	(0.315857)	(0.315857)	(0.017321)				0.325127						
	04/12/06	RA-228	R	0.231792	U4	1.19666E-01	0.504965	0.504965	1.00 Sa	99%			0.825923						
				(0.192059)		(9.8449E-02)	(0.417553)	(0.417553)	(0.017321)				0.360683						
	04/12/06	RA-228	A	0.096731	U4	5.29991E-02	0.210732	0.210732	1.00 Sa	99%			0.43138						
				(0.093709)		(5.2786E-02)	(0.203918)	(0.203918)	(0.01)				0.188385						
	04/12/06	RA-228	R	0.91042	U4	9.25000E-02	1.983379	1.983379	1.00 Sa	99%			4.003918						
				(0.902209)		(9.1207E-02)	(1.962686)	(1.962686)	(0.017321)				1.736261						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
17	Calc	TF	AIR	*STLE	Ra228WoBS	H0ERC1AC	PCI/SA	S	02/05/06 06:00	04/12/06 07:54	04/03/06 11:40	RASC4036	1	1.00 Sa					
O,INTRA-LAB CHECK					J6C010000-344		AIR			29.5	04/11/06 09:57	RASC4036 Aliq	100%	1.00 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	04/11/06 14:20	RA-228	135	91	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	86%	N		1.5692E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00			
1	04/11/06 15:15	RA-228	108	91	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	86%	N		1.7408E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00			
2	04/11/06 16:10	RA-228	92	91	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	86%	N		1.9312E+00	4.5045E-01	1.0190E+00		
			50	359			Y		(1.147E-02)	(0.000E+00)		7%			(0.000E+00)	1.00			
3	04/12/06 07:54	RA-228	54	302	GPC7A	1	N	N	5.2130E-01	1.0000E+00	N	86%	N		1.1375E+01	4.5045E-01	1.0190E+00		
			50	400			N		(1.205E-02)	(0.000E+00)		7%			(0.000E+00)	1.00			
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																Page 11		RecCnt:17	RADCALC v4.8.21
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																			STL Richland

Batch Nbr: 6060344				Alpha Beta, Ra-228 by GPC , Calculated Results								4/12/2006 8:12:40 AM		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC
	04/12/06	RA-228	R	4.368569		2.44652E+00	9.517062	9.517062	1.00 Sa	86%	86%	0.687978		
				(0.6012)		(2.3389E-01)	(1.209046)	(1.209046)	(0.017321)			0.295774		
	04/12/06	RA-228	R	3.77675		1.90652E+00	8.227766	8.227766	1.00 Sa	86%	74%	0.76324		
				(0.558635)		(2.0954E-01)	(1.136463)	(1.136463)	(0.017321)			0.328131		
	04/12/06	RA-228	R	3.486544		1.58652E+00	7.595545	7.595545	1.00 Sa	86%	69%	0.846709		
				(0.547955)		(1.9366E-01)	(1.124042)	(1.124042)	(0.017321)			0.364015		
	04/12/06	RA-228	A	3.877288		1.97985E+00	8.446791	8.446791	1.00 Sa	86%	76%	0.442236		
				(0.328932)		(1.2298E-01)	(0.668066)	(0.668066)	(0.01)			0.190125		
	04/12/06	RA-228	R	3.782399		3.25000E-01	8.240073	8.240073	1.00 Sa	86%	74%	7.280845		
				(1.822241)		(1.5326E-01)	(3.94579)	(3.94579)	(0.017321)			3.327004		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 12

RecCnt:17

RADCALC v4.8.21

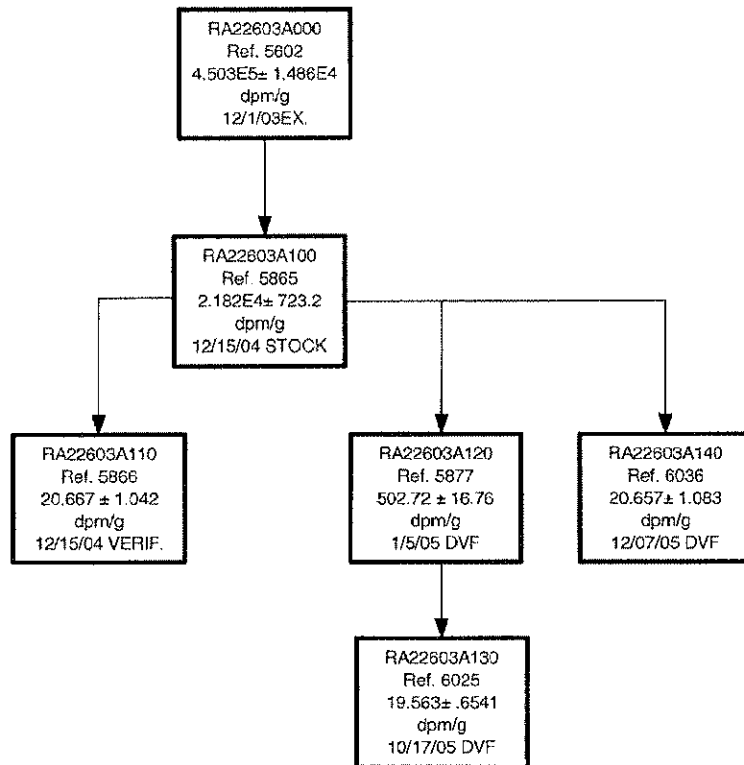
STL Richland

RADIUM 228

STANDARDS AND TRACEABILITY

STL Richland, SMFractions v4.8.12	Page 3	Record Count: 4
-----------------------------------	--------	-----------------

RA22603A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>12/7/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22603A100</u>	<u>5865</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.1810E+04</u>	±	<u>7.229E+02</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>0.1184</u>		
7) (% Error) of Weight of Source Material used	<u>4.0541</u>	%	
8) Diluent	<u>1 M HCL</u>		
9) Total Weight of the Dilution (g)	<u>125.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2400</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.0657E+01</u>	±	<u>1.083E+00</u>
12) Total Uncertainty	<u>5.242</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22603A140</u>	<u>6036</u>	
14) Calibration Reference Date	<u>12/7/2005</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>12/7/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/17/2006</u>
17) Location	<u></u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3



ANALYTIX

#5602
Rec'd 12/3/03

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 • U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

67269-310

Ra-226 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

Analytix maintains traceability to the National Institute of Standards and Technology through participation in a Measurements Assurance Program as described in USNRC Reg. Guide 4.15, Revision 1, February 1979.

ISOTOPE:	Ra-226
ACTIVITY (dps):	3.753 E4
HALF-LIFE:	1.600 E3 years
CALIBRATION DATE:	December 1, 2003 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ -impurities <0.1% (other than decay products)

5.00107 grams 0.1M HCl solution with 50 μ g/g Ba carrier.

Master solution ID#: P8V83.

P O NUMBER 2036005/300260, Item 1

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

M. Taskaeva 12-4-03

ISOTOPE RECORD FORM

1) Isotope Ra-226 2) Reference Number 5601
 3) Half Life 1600 yrs. 4) Storage Location STLB
 5) Source Identification Number Ra22603A000

CALIBRATION DATA

6) Activity as Received Units 3.753E4 dps
 7) Overall Uncertainty Percent 3.3%
 8) Reference Date / Time 12/1/03 12:00 EST (9:00AM)
 9) Activity dpm/g 4.5026E5 ± 14859E4 dpm/g
 10) Volume or Mass (ml/g) 5.00107g
 11) Calibrated by ANALYTICS
 12) Certificate Solution Number 67269-310

SURVEY DATA

13) Date Received 12/8/2003
 14) Surveyed by W.G
 15) Survey Reading (Beta/Gamma) cpm <1K
 16) Survey Reading (Alpha) cpm <BKG

17) Activity Conversion 3.753E+4dpsx60s/m/5.00107g= 4.503E+5 ± 1.49E+04 dpm/g

18) Remarks _____

19) Isotope File Updated by WG.12/11/03

20) QC Approved SE 12/16/03

RA22603C000

RA22603A000
Ref. 5602
4.503E5± 1.486E4
dpm/g
12/1/03

12/11/2003 7:58:06 AM

Standard Materials

Std Rec : 7/25/76 to 12/12/03, SM Identifier Like: RA22603A000%, *All Suppliers , Excluding Consumed Std , Order by SM Identifier

SM Identifier	SM Identifier2	Quantity	Density	Store Loc	Supplier	Supplier Id and Lot	Rec Date	Ref Date
RA22603A000	5602	5.00107 g		PM	ANAL (L)	67269-310	12/8/2003	12/1/2003
	RA-226	4.5026E+05 \pm 1.486E+04 DPM/G				Decayed Activity: 4.5026E+05 \pm 1.486E+04		
Total Activity: 2.2518E+006 DPM								



STL

ISOTOPE RECORD FORM

1) Isotope Ra226 2) Reference Number # 5602
3) Half Life 1.600×10^3 yrs 4) Storage Location QCLab
5) Source Identification Number Ra22603A000

CALIBRATION DATA

6) Activity as Received Units $3.753 \text{E}4$ dps
7) Overall Uncertainty Percent 3.3%
8) Reference Date / Time 12/1/03 12:00 EST (9:00 AM)
9) Activity dpm/g $4.5026 \times 10^5 \pm 1.4859 \times 10^4$ dpm/g
10) Volume or Mass (mL / g) 5.00107g
11) Calibrated by Analytic
12) Certificate Solution Number 67269-310

SURVEY DATA

13) Date Received 12/8/3
14) Surveyed by WA
15) Survey reading (Beta/Gamma) cpm < 1K
16) Survey Reading (Alpha) cpm < 0KG

17) Activity Conversion $37530.0 \text{ dps} \times 60 \text{ s/m} / 5.00107 \text{g} =$
 $450263.6436 \pm 14858.70024$ dpm/g

18) Remarks

19) Isotope File Updated by WA 12/11/3

20) QC Approved



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318-U.S.A

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

Rec'd 12/8/32

SHIPPER'S DECLARATION

Shipment number 20736-11747 contains the following isotopes:

FORM: LIQUID

<u>RADIONUCLIDE</u>	<u>QUANTITY IN MICROCURIES*</u>
Ra-226	1.01
TOTAL:	<hr/> 1.01

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material, excepted package-limited quantity of material, UN2910.

SHIPPED TO: SEVERN TRENT LABS
STL RICHLAND

DATE: 12.4.03
TE Kosh

*Quantities stated are approximate and for shipping purposes only. For certified quantities see Certificate of Calibration for each radioactive standard.



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318-U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

PACKING LIST

SEVERN TRENT LABORATORIES
STL RICHLAND
2800 GEORGE WASHINGTON WAY

RICHLAND WA 99352-1613

ATTN:

FOR:

LINE QTY
NUMBER SHIP

DESCRIPTION

BOX 1 OF 1

LINE	QTY	DESCRIPTION
01	1	SRS 67269-310 RA-226 5 ML LIQUID IN FLAME SEALED VIAL CALIBRATION STANDARD, 1.01 UCI 0.1M HCL SOLUTION ***STOCK***

ORDER # 011747
SHIPPING DATE 12-4-03
SHIPMENT NO. 20736-11747
P. O. NUMBER 2036005/300260

REQ/RELEASE NO.

1 CALIBRATION CERTIFICATES ARE ENCLOSED IN THIS BOX TK

LIMITED WARRANTY

ANALYTICS warrants that at the time of shipment the products sold by it are free from defects in material and workmanship and conform to specifications, which accompany the product. ANALYTICS makes no other warranty, expressed or implied, with respect to the products, including any warranty of merchantability or fitness for any particular purpose. Complaints of breach of warranty on radioactive products must be received in writing by ANALYTICS within two half-lives of the radioactive material or 30 days, whichever first occurs. The maximum liability for any breach of warranty shall be replacement of the product or refund of the invoice price of the product. ANALYTICS shall in no case be liable for special, incidental or consequential damages of any kind.



ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 - U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837
email: analytics@mindspring.com
www.analyticsinc.com

Important MSDS Information Enclosed

Ra-226 Radioactive Liquid Calibration Standard

Enclosed is the Material Safety Data Sheet (MSDS) for the item above which meets the OSHA Hazard Communication Standard criteria. The ingredients are:

	Radioactive Nuclides
MSDS-1002	Hydrochloric Acid (not more than 24%)

This information provides conservative chemical safety guidelines for handling the pure forms of the ingredients.

The hazards of radioactivity are regulated by the U.S. Nuclear Regulatory Commission under Title 10, parts 19, 20, 30, 31 and 35 of the Code of Federal Regulations. The hazards of radioactivity are not addressed in the enclosed safety information.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: MSDS-1002

MATERIAL IDENTIFICATION: RADIOACTIVE MATERIAL IN HYDROCHLORIC ACID SOLUTION
(NOT MORE THAN 24%)

REVISION DATE: APRIL 1, 1999

ANALYTICS, INC.
1380 SEABOARD IND. BLVD.
ATLANTA, GEORGIA 30318
404-352-8677

EMERGENCY NUMBERS:
CHEM-TEL 800-255-3924 (US)
813-248-0585 (INT'L) (call collect)

THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

SUBSTANCE: HYDROCHLORIC ACID SOLUTION

TRADE NAME & SYNONYMS: CHLORHYDRIC ACID, HYDRO CHLORIDE, MURIATIC ACID

DOT SHIPPING NAME: HYDROCHLORIC ACID (NOT MORE THAN 24%)

FORMULA: HCl

CHEMICAL FAMILY: INORGANIC ACID

COMPONENT:	PERCENT:	OSHA PEL	ACGIH TLV
HYDROCHLORIC ACID	0.04% - 24%	5 PPM	N/A

NFPA RATINGS: HEALTH=3 FIRE=0 REACTIVITY=1

CAUTION: CONTAINS RADIOACTIVE MATERIAL WHICH, ALTHOUGH BEYOND THE SCOPE OF MSDS REQUIREMENTS, SHOULD BE CONSIDERED THE PRINCIPAL HAZARD. THIS MATERIAL SHOULD BE HANDLED ONLY BY TRAINED INDIVIDUALS IN CONFORMANCE WITH 10 CFR REQUIREMENTS.

PHYSICAL/CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR: CLEAR, COLORLESS SOLUTION WITH PUNGENT ODOR

BOILING POINT: 100 C. TO 109 C

SPECIFIC GRAVITY: 1.00 TO 1.18

VAPOR PRESSURE: 3,040 mm Hg @ 17.8 C

MELTING POINT: N/A

VAPOR DENSITY (AIR): APPROX. 1.2

EVAPORATION RATE: 1

SOLUBILITY IN WATER: INFINITE pH: 0+ TO 3.0

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A AUTO IGNITION TEMP.: N/A FLAMMABLE LIMITS: N/A

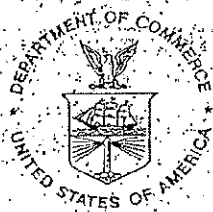
LEL: N/A

UEL: N/A

EXTINGUISHABLE MEDIA: WATER SPRAY

FIRE FIGHTING: FULL PROTECTIVE CLOTHING AND NIOSH APPROVED POSITIVE PRESSURE SCBA SHOULD BE WORN.

UNUSUAL FIRE AND EXPLOSION HAZARDS: CAUTION MAY PRODUCE AIRBORNE RADIOACTIVE MATERIALS DURING FIRE. CONSULT HEALTH PHYSICS/RADIATION SAFETY STAFF.



U.S. DEPARTMENT OF COMMERCE
National Institute of Standards & Technology
Gaithersburg, MD 20899

Certificate of Participation

Analytics, Incorporated
Atlanta, Georgia

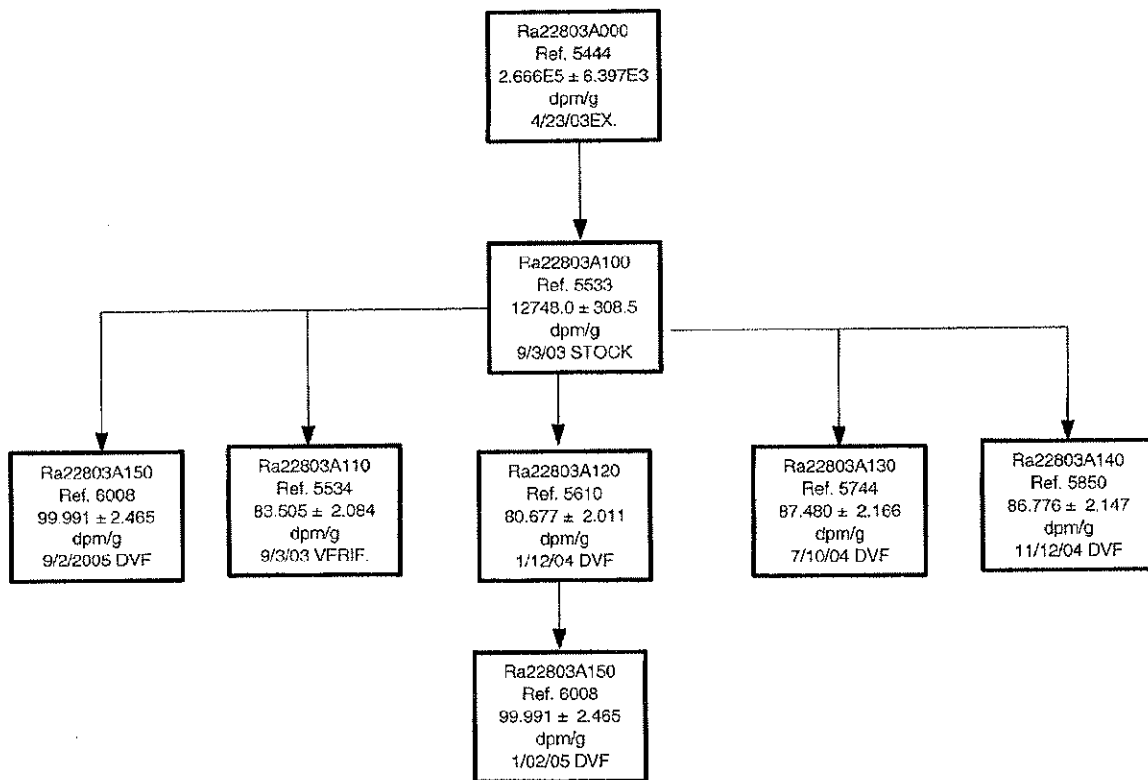
is a participant for the period January 1, 2003, through December 31, 2003, in a radioactivity measurements assurance program conducted by the National Institute of Standards and Technology, in cooperation with the Nuclear Energy Institute. Continued participation is evidenced by dated Reports of Traceability issued for particular radionuclides, which indicate the deviation of the participant's reported value from that measured by the National Institute of Standards and Technology. The significance of these Reports is addressed on the back of this certificate.

For the Director,

A handwritten signature in cursive script, appearing to read "Lisa R. Karami".

Lisa R. Karami, Group Leader
Radioactivity Group
Physics Laboratory
(over)

Ra22803A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>9/2/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.0020E+04</u>	±	<u>2.426E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>1.1976</u>		
7) (% Error) of Weight of Source Material used	<u>0.4008</u>	%	
8) Diluent	<u>1 M TM HCL</u>		
9) Total Weight of the Dilution (g)	<u>120.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2500</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>9.9991E+01</u>	±	<u>2.465E+00</u>
12) Total Uncertainty	<u>2.466</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A150</u>	<u>6008</u>	
14) Calibration Reference Date	<u>9/2/2005</u>		
15) Isotope Inventory File update by/date	<u>TDA</u>	<u>9/2/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/13/2005</u>	
17) Location <u>QCLAB</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>9/2/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.0020E+04</u>	±	<u>2.426E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>1.1976</u>		
7) (% Error) of Weight of Source Material used	<u>0.4008</u>	%	
8) Diluent	<u>1 M TM HCL</u>		
9) Total Weight of the Dilution (g)	<u>120.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2500</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>9.9991E+01</u>	±	<u>2.465E+00</u>
12) Total Uncertainty	<u>2.466</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A150</u>	<u>6008</u>	
14) Calibration Reference Date	<u>9/2/2005</u>		
15) Isotope Inventory File update by/date	<u>TDA</u>	<u>9/2/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/13/2005</u>	
17) Location <u>QCLAB</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>11/12/2004</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.1068E+04</u>	\pm	<u>2.678E+02</u>
5) Percent error of Source Activity	<u>2.420</u>	%	
6) Weight of Source Material used (g)	<u>1.0426</u>		
7) (% Error) of Weight of Source Material used	<u>0.4604</u>	%	
8) Diluent	<u>1M HCL-P0400341</u>		
9) Total Weight of the Dilution (g)	<u>132.98</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2256</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.6776E+01</u>	\pm	<u>2.147E+00</u>
12) Total Uncertainty	<u>2.474</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A140</u>	<u>5850</u>	
14) Calibration Reference Date	<u>11/12/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>11/12/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>11/12/2004</u>	
17) Location <u>QCLAB/STWT1077</u>	18) Exhausted		

CALCULATIONS7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$ 10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$ 11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$ 12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>7/10/2004</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.1506E+04</u>	\pm	<u>2.785E+02</u>
5) Percent error of Source Activity	<u>2.420</u>	%	
6) Weight of Source Material used (g)	<u>1.0166</u>		
7) (% Error) of Weight of Source Material used	<u>0.4722</u>	%	
8) Diluent	<u>1M HCL-P0400341</u>		
9) Total Weight of the Dilution (g)	<u>133.71</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2244</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.7480E+01</u>	\pm	<u>2.166E+00</u>
12) Total Uncertainty	<u>2.476</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A130</u>	<u>5744</u>	
14) Calibration Reference Date	<u>7/10/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>7/10/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>7/13/2004</u>	
17) Location <u>QCLAB/STWT1015</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>1/12/2004</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.2209E+04</u>	\pm	<u>2.955E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>0.8710</u>		
7) (% Error) of Weight of Source Material used	<u>0.5511</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>131.81</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2276</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.0677E+01</u>	\pm	<u>2.011E+00</u>
12) Total Uncertainty	<u>2.492</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A120</u>	<u>5610</u>	
14) Calibration Reference Date	<u>1/12/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>1/12/2004</u>	
16) Reviewed by/date	<u>SEW</u>	<u>1/15/2004</u>	
17) Location <u>QCLAB/STWT0897</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/3/2003</u>
3) Source Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.2748E+04</u>	\pm	<u>3.085E+02</u>
5) Percent error of Source Activity	<u>2.42</u>	%	
6) Weight of Source Material used (g)	<u>0.8494</u>		
7) (% Error) of Weight of Source Material used	<u>0.5651</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>129.67</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2314</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.3505E+01</u>	\pm	<u>2.084E+00</u>
12) Total Uncertainty	<u>2.496</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A110</u>	<u>5534</u>	
14) Calibration Reference Date	<u>9/3/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>9/3/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/4/2003</u>	
17) Location <u>QCLAB/STWT0842</u>	18) Exhausted		

CALCULATIONS7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$ 10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$ 11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$ 12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/3/2003</u>
3) Source Identification Number / Ref. Number	<u>RA22803A000</u>	<u>5444</u>	
4) Source Activity (dpm \pm dpm/g)	<u>2.5563E+05</u>	\pm	<u>6.135E+03</u>
5) Percent error of Source Activity	<u>2.4</u>	%	
6) Weight of Source Material used (g)	<u>5.02032</u>		
7) (% Error) of Weight of Source Material used	<u>0.0956</u>	%	
8) Diluent	<u>1M HCL-P0300486</u>		
9) Total Weight of the Dilution (g)	<u>100.67</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2980</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.2748E+04</u>	\pm	<u>3.085E+02</u>
12) Total Uncertainty	<u>2.420</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22803A100</u>	<u>5533</u>	
14) Calibration Reference Date	<u>9/3/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>9/3/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>9/4/2003</u>	
17) Location <u>OCLAB/STWT0841</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3



ISOTOPE RECORD FORM

1) Isotope RA-228 2) Reference Number 5444
3) Half Life 5.75 yrs 4) Storage Location QCLAB
5) Source Identification Number RA22803A000

CALIBRATION DATA

6) Activity as Received Units 23520.0 dps
7) Overall Uncertainty Percent 2.4%
8) Reference Date / Time 04/23/03 12:00 EST (9.00AM)
9) Activity dpm/g $2.6710E+05 \pm 6.397E+3$ dpm/g
10) Volume or Mass (ml/g) 5.28350g
11) Calibrated by ANALYTICS
12) Certificate Solution Number 65743-310

SURVEY DATA

13) Date Received 4/25/2003
14) Surveyed by W.G
15) Survey Reading (Beta/Gamma) cpm < 2K
16) Survey Reading (Alpha) cpm < 1K

17) Activity Conversion $23520.0 \text{ dps} \times 60 \text{ s/m} / 5.28350 \text{ g} = 2.6710E+5 \pm 6.397E+3 \text{ dpm/g}$

18) Remark Used all to make first dilution 9/3/03 wg

19) Isotope File Updated by 04/29/03 W.G

20) QC Approved _____

ANALYTICS



#5444
Rec'd 9/29/04

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 - U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

65743-310

Ra-228 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Ra-228
ACTIVITY (dps):	2.352 E4
HALF-LIFE:	5.75 years
CALIBRATION DATE:	April 23, 2003 12:00 EST
TOTAL UNCERTAINTY*:	2.4%

*95% Confidence Level

Impurities: γ -impurities (other than decay products) <0.1%,
Ra-226 <0.1%

5.28350 grams 4M HCl solution with 100 μ g/g Ba carrier.

P O NUMBER 1735885-000 OP, Item 1

Produced from master solution P111V105.

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

W.M. M. J. 4-23-03

RADIUM 228

CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAY-2006 11:36:26.11

QA Filename : \$DISK1:[QUAD1.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 1a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 54.000000 Upper Bound : 57.799999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 55.904877 Std Deviation : 0.629910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:59	CHK		56.2000	
2-MAR-2006 05:04	CHK		55.4000	
3-MAR-2006 05:00	CHK		56.4000	
4-MAR-2006 06:02	CHK		56.4000	
6-MAR-2006 05:01	CHK		56.5000	
7-MAR-2006 04:57	CHK		56.2000	
8-MAR-2006 05:31	CHK		55.6000	
9-MAR-2006 05:30	CHK		55.8000	
10-MAR-2006 05:35	CHK		56.5000	
12-MAR-2006 07:37	CHK		56.2000	
13-MAR-2006 05:08	CHK		56.4000	
14-MAR-2006 04:53	CHK		55.9000	
15-MAR-2006 05:03	CHK		55.3000	
16-MAR-2006 04:53	CHK		56.3000	
17-MAR-2006 05:35	CHK		56.8000	
18-MAR-2006 07:07	CHK		56.6000	
20-MAR-2006 04:58	CHK		55.7000	
21-MAR-2006 04:55	CHK		56.7000	
22-MAR-2006 05:30	CHK		56.2000	
23-MAR-2006 05:28	CHK		55.4000	
24-MAR-2006 05:02	CHK		56.9000	

25-MAR-2006 07:08	CHK	56.0000			
27-MAR-2006 05:01	CHK	55.8000			
28-MAR-2006 04:55	CHK	56.2000			
29-MAR-2006 04:59	CHK	56.2000			
30-MAR-2006 05:03	CHK	56.4000			
31-MAR-2006 04:53	CHK	55.9000			
1-APR-2006 06:28	CHK	56.1000			
2-APR-2006 05:28	CHK	55.8000			
3-APR-2006 04:49	CHK	55.2000			
4-APR-2006 04:57	CHK	56.3000			
5-APR-2006 04:51	CHK	56.6000			
6-APR-2006 04:48	CHK	56.5000			
7-APR-2006 04:48	CHK	55.8000			
8-APR-2006 07:31	CHK	56.3000			
9-APR-2006 07:38	CHK	54.9000			
10-APR-2006 05:08	CHK	54.9000			
11-APR-2006 04:53	CHK	56.3000			

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

12-APR-2006 05:29	CHK		56.2000			
-------------------	-----	--	---------	--	--	--

-- Multi-Test Full Report --

Description : quad 1b 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.000000 Upper Bound : 51.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 47.543636 Std Deviation : 1.162435

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK	47.6000			
2-MAR-2006 05:04	CHK	46.8000			
3-MAR-2006 05:00	CHK	47.3000			
4-MAR-2006 06:02	CHK	46.9000			

6-MAR-2006 05:01	CHK	47.0000			
7-MAR-2006 04:57	CHK	47.4000			
8-MAR-2006 05:31	CHK	47.5000			
9-MAR-2006 05:30	CHK	47.1000			
10-MAR-2006 05:35	CHK	46.6000			
12-MAR-2006 07:37	CHK	47.6000			
13-MAR-2006 05:08	CHK	47.3000			
14-MAR-2006 04:53	CHK	47.2000			
15-MAR-2006 05:03	CHK	47.6000			
16-MAR-2006 04:53	CHK	46.3000			
17-MAR-2006 05:35	CHK	46.8000			
18-MAR-2006 07:07	CHK	47.4000			
20-MAR-2006 04:58	CHK	47.1000			
21-MAR-2006 04:55	CHK	47.1000			
22-MAR-2006 05:30	CHK	48.3000			
23-MAR-2006 05:28	CHK	47.1000			
24-MAR-2006 05:02	CHK	47.7000			
25-MAR-2006 07:08	CHK	46.9000			
27-MAR-2006 05:01	CHK	47.5000			
28-MAR-2006 04:55	CHK	47.1000			
29-MAR-2006 04:59	CHK	46.9000			
30-MAR-2006 05:03	CHK	47.1000			
31-MAR-2006 04:53	CHK	47.9000			
1-APR-2006 06:28	CHK	46.1000			
2-APR-2006 05:28	CHK	46.7000			
3-APR-2006 04:49	CHK	48.2000			
4-APR-2006 04:57	CHK	47.2000			
5-APR-2006 04:51	CHK	46.9000			
6-APR-2006 04:48	CHK	47.0000			
7-APR-2006 04:48	CHK	46.7000			
8-APR-2006 07:31	CHK	46.2000			
9-APR-2006 07:38	CHK	47.1000			
10-APR-2006 05:08	CHK	47.5000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

11-APR-2006 04:53	CHK		46.5000	
12-APR-2006 05:29	CHK		47.0000	

-- Multi-Test Full Report --

Description : quad 1c 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 49.000000 Upper Bound : 54.200001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 51.623169 Std Deviation : 0.712431

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK		52.0000		
2-MAR-2006 05:04	CHK		52.9000		
3-MAR-2006 05:00	CHK		51.6000		
4-MAR-2006 06:02	CHK		52.7000		
6-MAR-2006 05:01	CHK		51.3000		
7-MAR-2006 04:57	CHK		52.1000		
8-MAR-2006 05:31	CHK		50.5000		
9-MAR-2006 05:30	CHK		51.3000		
10-MAR-2006 05:35	CHK		52.0000		
12-MAR-2006 07:37	CHK		51.9000		
13-MAR-2006 05:08	CHK		52.0000		
14-MAR-2006 04:53	CHK		51.3000		
15-MAR-2006 05:03	CHK		52.0000		
16-MAR-2006 04:53	CHK		51.9000		
17-MAR-2006 05:35	CHK		51.5000		
18-MAR-2006 07:07	CHK		52.0000		
20-MAR-2006 04:58	CHK		51.8000		
21-MAR-2006 04:55	CHK		52.9000		
22-MAR-2006 05:30	CHK		51.6000		
23-MAR-2006 05:28	CHK		51.3000		
24-MAR-2006 05:02	CHK		51.5000		
25-MAR-2006 07:08	CHK		51.3000		
27-MAR-2006 05:01	CHK		51.4000		
28-MAR-2006 04:55	CHK		52.7000		
29-MAR-2006 04:59	CHK		53.0000		
30-MAR-2006 05:03	CHK		51.7000		
31-MAR-2006 04:53	CHK		51.0000		
1-APR-2006 06:28	CHK		51.8000		
2-APR-2006 05:28	CHK		51.4000		
3-APR-2006 04:49	CHK		51.7000		

4-APR-2006 04:57	CHK	51.5000			
5-APR-2006 04:51	CHK	52.3000			
6-APR-2006 04:48	CHK	50.9000			
7-APR-2006 04:48	CHK	51.8000			
8-APR-2006 07:31	CHK	51.7000			
9-APR-2006 07:38	CHK	52.3000			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-APR-2006 05:08	CHK		51.4000		
11-APR-2006 04:53	CHK		51.6000		
12-APR-2006 05:29	CHK		51.2000		

-- Multi-Test Full Report --

Description : quad 1d 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.599998 Upper Bound : 50.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 48.296951 Std Deviation : 0.544062

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 04:59	CHK		47.9000		
2-MAR-2006 05:04	CHK		49.2000		
3-MAR-2006 05:00	CHK		48.2000		
4-MAR-2006 06:02	CHK		48.7000		
6-MAR-2006 05:01	CHK		48.5000		
7-MAR-2006 04:57	CHK		47.9000		
8-MAR-2006 05:31	CHK		48.0000		
9-MAR-2006 05:30	CHK		49.3000		
10-MAR-2006 05:35	CHK		48.4000		
12-MAR-2006 07:37	CHK		47.5000		
13-MAR-2006 05:08	CHK		48.4000		
14-MAR-2006 04:53	CHK		48.3000		
15-MAR-2006 05:03	CHK		48.5000		

16-MAR-2006 04:53	CHK	48.6000			
17-MAR-2006 05:35	CHK	48.0000			
18-MAR-2006 07:07	CHK	47.8000			
20-MAR-2006 04:58	CHK	49.5000	In		
21-MAR-2006 04:55	CHK	48.8000			
22-MAR-2006 05:30	CHK	48.4000			
23-MAR-2006 05:28	CHK	47.7000			
24-MAR-2006 05:02	CHK	47.9000			
25-MAR-2006 07:08	CHK	47.7000			
27-MAR-2006 05:01	CHK	48.4000			
28-MAR-2006 04:55	CHK	48.4000			
29-MAR-2006 04:59	CHK	48.6000			
30-MAR-2006 05:03	CHK	48.5000			
31-MAR-2006 04:53	CHK	49.4000	In		
1-APR-2006 06:28	CHK	48.4000			
2-APR-2006 05:28	CHK	48.2000			
3-APR-2006 04:49	CHK	48.5000			
4-APR-2006 04:57	CHK	47.9000			
5-APR-2006 04:51	CHK	48.1000			
6-APR-2006 04:48	CHK	48.5000			
7-APR-2006 04:48	CHK	48.5000			
8-APR-2006 07:31	CHK	47.6000			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

9-APR-2006 07:38	CHK		47.9000		
10-APR-2006 05:08	CHK		48.6000		
11-APR-2006 04:53	CHK		48.3000		
12-APR-2006 05:29	CHK		47.5000		

Quality Assurance Report.

Generated 26-MAY-2006 11:36:27.22

QA Filename : \$DISK1:[QUAD1.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 1a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.617460 Std Deviation : 0.096733

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:38	BKG		0.5200		
2-MAR-2006 03:57	BKG		0.6700		
3-MAR-2006 02:29	BKG		0.6400		
4-MAR-2006 02:28	BKG		0.7200		
4-MAR-2006 22:05	BKG		0.5400		
5-MAR-2006 22:28	BKG		0.5600		
7-MAR-2006 03:32	BKG		0.4700		
8-MAR-2006 03:03	BKG		0.7100		
9-MAR-2006 03:21	BKG		0.7500		
10-MAR-2006 01:31	BKG		0.7200		
11-MAR-2006 03:14	BKG		0.6500		
11-MAR-2006 19:23	BKG		0.6000		
12-MAR-2006 19:58	BKG		0.6800		
14-MAR-2006 03:30	BKG		0.6700		
15-MAR-2006 01:38	BKG		0.6600		
16-MAR-2006 03:14	BKG		0.6900		
17-MAR-2006 03:36	BKG		0.6300		
18-MAR-2006 04:19	BKG		0.6600		
18-MAR-2006 20:15	BKG		0.6800		
19-MAR-2006 19:37	BKG		0.6000		
21-MAR-2006 02:48	BKG		0.7200		
22-MAR-2006 01:40	BKG		0.6500		
23-MAR-2006 04:56	BKG		0.6500		
24-MAR-2006 02:48	BKG		0.5900		
25-MAR-2006 02:23	BKG		0.6200		
25-MAR-2006 20:29	BKG		0.6400		
26-MAR-2006 21:19	BKG		0.6200		
28-MAR-2006 03:48	BKG		0.6400		
29-MAR-2006 03:09	BKG		0.7000		
30-MAR-2006 03:00	BKG		0.6000		
31-MAR-2006 02:08	BKG		0.6200		
1-APR-2006 02:32	BKG		0.6600		
1-APR-2006 20:32	BKG		0.6700		
2-APR-2006 20:05	BKG		0.6300		
4-APR-2006 02:32	BKG		0.5600		
5-APR-2006 01:37	BKG		0.6100		
6-APR-2006 04:02	BKG		0.6300		

7-APR-2006 02:26	BKG	0.6600			
8-APR-2006 04:21	BKG	0.5900			
8-APR-2006 21:11	BKG	0.6000			
9-APR-2006 21:25	BKG	0.5800			

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-APR-2006 03:09	BKG		0.5800		
12-APR-2006 02:48	BKG		0.6800		

-- Multi-Test Full Report --

Description : quad 1b 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.659153 Std Deviation : 0.179587

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 02:38	BKG		0.6000		
2-MAR-2006 03:57	BKG		0.7200		
3-MAR-2006 02:29	BKG		0.6700		
4-MAR-2006 02:28	BKG		0.7000		
4-MAR-2006 22:05	BKG		0.5800		
5-MAR-2006 22:28	BKG		0.6900		
7-MAR-2006 03:32	BKG		0.6400		
8-MAR-2006 03:03	BKG		0.6700		
9-MAR-2006 03:21	BKG		0.6500		
10-MAR-2006 01:31	BKG		0.6900		
11-MAR-2006 03:14	BKG		0.7100		
11-MAR-2006 19:23	BKG		0.6200		
12-MAR-2006 19:58	BKG		0.5600		
14-MAR-2006 03:30	BKG		0.6100		
15-MAR-2006 01:38	BKG		0.6200		
16-MAR-2006 03:14	BKG		0.6200		
17-MAR-2006 03:36	BKG		0.6100		
18-MAR-2006 04:19	BKG		0.6600		
18-MAR-2006 20:15	BKG		0.6300		

19-MAR-2006 19:37 BKG	0.6400			
21-MAR-2006 02:48 BKG	0.6700			
22-MAR-2006 01:40 BKG	0.6400			
23-MAR-2006 04:56 BKG	0.7100			
24-MAR-2006 02:48 BKG	0.6700			
25-MAR-2006 02:23 BKG	0.6700			
25-MAR-2006 20:29 BKG	0.6900			
26-MAR-2006 21:19 BKG	0.6600			
28-MAR-2006 03:48 BKG	0.7000			
29-MAR-2006 03:09 BKG	0.6700			
30-MAR-2006 03:00 BKG	0.6600			
31-MAR-2006 02:08 BKG	0.6100			
1-APR-2006 02:32 BKG	0.6400			
1-APR-2006 20:32 BKG	0.6200			
2-APR-2006 20:05 BKG	0.7000			
4-APR-2006 02:32 BKG	0.6500			
5-APR-2006 01:37 BKG	0.7100			
6-APR-2006 04:02 BKG	0.6400			
7-APR-2006 02:26 BKG	0.6400			
8-APR-2006 04:21 BKG	0.6300			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
8-APR-2006 21:11 BKG			0.6900	
9-APR-2006 21:25 BKG			0.7200	
11-APR-2006 03:09 BKG			0.7600	
12-APR-2006 02:48 BKG			0.6700	

-- Multi-Test Full Report --

Description : quad 1c 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.583757 Std Deviation : 0.116615

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 02:38 BKG			0.5100	

2-MAR-2006 03:57	BKG	0.5800			
3-MAR-2006 02:29	BKG	0.5300			
4-MAR-2006 02:28	BKG	0.5800			
4-MAR-2006 22:05	BKG	0.6000			
5-MAR-2006 22:28	BKG	0.5100			
7-MAR-2006 03:32	BKG	0.4500			
8-MAR-2006 03:03	BKG	0.5100			
9-MAR-2006 03:21	BKG	0.6000			
10-MAR-2006 01:31	BKG	0.5700			
11-MAR-2006 03:14	BKG	0.6300			
11-MAR-2006 19:23	BKG	0.5700			
12-MAR-2006 19:58	BKG	0.5700			
14-MAR-2006 03:30	BKG	0.5500			
15-MAR-2006 01:38	BKG	0.4900			
16-MAR-2006 03:14	BKG	0.5400			
17-MAR-2006 03:36	BKG	0.5700			
18-MAR-2006 04:19	BKG	0.5500			
18-MAR-2006 20:15	BKG	0.5000			
19-MAR-2006 19:37	BKG	0.5300			
21-MAR-2006 02:48	BKG	0.6300			
22-MAR-2006 01:40	BKG	0.6100			
23-MAR-2006 04:56	BKG	0.5100			
24-MAR-2006 02:48	BKG	0.5500			
25-MAR-2006 02:23	BKG	0.4900			
25-MAR-2006 20:29	BKG	0.4700			
26-MAR-2006 21:19	BKG	0.5300			
28-MAR-2006 03:48	BKG	0.5600			
29-MAR-2006 03:09	BKG	0.5700			
30-MAR-2006 03:00	BKG	0.5600			
31-MAR-2006 02:08	BKG	0.6300			
1-APR-2006 02:32	BKG	0.5400			
1-APR-2006 20:32	BKG	0.5700			
2-APR-2006 20:05	BKG	0.5400			
4-APR-2006 02:32	BKG	0.7600			
5-APR-2006 01:37	BKG	0.5300			
6-APR-2006 04:02	BKG	0.5600			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
7-APR-2006 02:26	BKG		0.5400		
8-APR-2006 04:21	BKG		0.5400		
8-APR-2006 21:11	BKG		0.5600		

9-APR-2006 21:25	BKG	0.5100			
11-APR-2006 03:09	BKG	0.5400			
12-APR-2006 02:48	BKG	0.5200			

-- Multi-Test Full Report --

Description : quad 1d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.606455 Std Deviation : 0.089749

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:38	BKG		0.5500			
2-MAR-2006 03:57	BKG		0.5900			
3-MAR-2006 02:29	BKG		0.5700			
4-MAR-2006 02:28	BKG		0.6900			
4-MAR-2006 22:05	BKG		0.6600			
5-MAR-2006 22:28	BKG		0.5300			
7-MAR-2006 03:32	BKG		0.6100			
8-MAR-2006 03:03	BKG		0.6400			
9-MAR-2006 03:21	BKG		0.6800			
10-MAR-2006 01:31	BKG		0.5700			
11-MAR-2006 03:14	BKG		0.6700			
11-MAR-2006 19:23	BKG		0.6400			
12-MAR-2006 19:58	BKG		0.6200			
14-MAR-2006 03:30	BKG		0.6300			
15-MAR-2006 01:38	BKG		0.6100			
16-MAR-2006 03:14	BKG		0.6000			
17-MAR-2006 03:36	BKG		0.5900			
18-MAR-2006 04:19	BKG		0.6600			
18-MAR-2006 20:15	BKG		0.5600			
19-MAR-2006 19:37	BKG		0.5500			
21-MAR-2006 02:48	BKG		0.6700			
22-MAR-2006 01:40	BKG		0.6200			
23-MAR-2006 04:56	BKG		0.6000			
24-MAR-2006 02:48	BKG		0.6900			
25-MAR-2006 02:23	BKG		0.6000			
25-MAR-2006 20:29	BKG		0.6200			

26-MAR-2006 21:19 BKG	0.6300			
28-MAR-2006 03:48 BKG	0.6200			
29-MAR-2006 03:09 BKG	0.6300			
30-MAR-2006 03:00 BKG	0.6000			
31-MAR-2006 02:08 BKG	0.6700			
1-APR-2006 02:32 BKG	0.6300			
1-APR-2006 20:32 BKG	0.6400			
2-APR-2006 20:05 BKG	0.6300			
4-APR-2006 02:32 BKG	0.8600	In		

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-APR-2006 01:37 BKG			0.5700	
6-APR-2006 04:02 BKG			0.6300	
7-APR-2006 02:26 BKG			0.6000	
8-APR-2006 04:21 BKG			0.6500	
8-APR-2006 21:11 BKG			0.6700	
9-APR-2006 21:25 BKG			0.6200	
11-APR-2006 03:09 BKG			0.7000	
12-APR-2006 02:48 BKG			0.6400	

Quality Assurance Report.

Generated 26-MAY-2006 11:36:35.44

QA Filename : \$DISK1:[QUAD2.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 2a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.799999 Upper Bound : 45.099998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.453659 Std Deviation : 0.556654

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:59	CHK		43.5000	
2-MAR-2006 05:04	CHK		43.0000	
3-MAR-2006 05:00	CHK		42.7000	
4-MAR-2006 06:02	CHK		44.0000	
6-MAR-2006 05:01	CHK		43.8000	
7-MAR-2006 04:57	CHK		43.4000	
8-MAR-2006 05:31	CHK		43.8000	
9-MAR-2006 05:30	CHK		43.1000	
10-MAR-2006 05:36	CHK		42.6000	
12-MAR-2006 07:37	CHK		42.6000	
13-MAR-2006 05:08	CHK		43.0000	
14-MAR-2006 04:53	CHK		42.8000	
15-MAR-2006 05:03	CHK		42.6000	
16-MAR-2006 04:53	CHK		42.6000	
17-MAR-2006 05:35	CHK		43.2000	
18-MAR-2006 07:02	CHK		42.4000	
20-MAR-2006 04:58	CHK		42.3000	In
21-MAR-2006 04:55	CHK		42.9000	
22-MAR-2006 05:25	CHK		43.0000	
23-MAR-2006 05:28	CHK		43.2000	
24-MAR-2006 05:02	CHK		44.0000	

25-MAR-2006 07:03	CHK	43.3000			
27-MAR-2006 05:02	CHK	43.6000			
28-MAR-2006 04:55	CHK	44.5000			
29-MAR-2006 04:59	CHK	43.8000			
30-MAR-2006 05:03	CHK	43.6000			
31-MAR-2006 04:53	CHK	43.4000			
1-APR-2006 06:23	CHK	43.4000			
2-APR-2006 05:28	CHK	42.6000			
3-APR-2006 04:50	CHK	43.2000			
4-APR-2006 04:57	CHK	42.2000	In		
5-APR-2006 04:51	CHK	43.3000			
6-APR-2006 04:48	CHK	43.5000			
7-APR-2006 04:43	CHK	42.9000			
8-APR-2006 07:32	CHK	43.1000			
9-APR-2006 07:38	CHK	43.5000			
10-APR-2006 05:08	CHK	43.4000			
11-APR-2006 04:58	CHK	42.9000			

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-APR-2006 05:24	CHK		42.8000	

-- Multi-Test Full Report --

Description : quad 2b 1" beta %eff

Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.000000 Upper Bound : 47.400002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 45.754269 Std Deviation : 0.543940

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 04:59	CHK		46.1000	
2-MAR-2006 05:04	CHK		46.1000	
3-MAR-2006 05:00	CHK		45.0000	
4-MAR-2006 06:02	CHK		45.3000	

6-MAR-2006 05:01	CHK	45.0000			
7-MAR-2006 04:57	CHK	45.4000			
8-MAR-2006 05:31	CHK	44.8000			
9-MAR-2006 05:30	CHK	45.5000			
10-MAR-2006 05:36	CHK	45.4000			
12-MAR-2006 07:37	CHK	44.6000	In		
13-MAR-2006 05:08	CHK	45.4000			
14-MAR-2006 04:53	CHK	46.5000			
15-MAR-2006 05:03	CHK	45.2000			
16-MAR-2006 04:53	CHK	45.5000			
17-MAR-2006 05:35	CHK	44.5000	In		
18-MAR-2006 07:02	CHK	46.2000			
20-MAR-2006 04:58	CHK	46.0000			
21-MAR-2006 04:55	CHK	46.0000			
22-MAR-2006 05:25	CHK	46.1000			
23-MAR-2006 05:28	CHK	45.5000			
24-MAR-2006 05:02	CHK	45.8000			
25-MAR-2006 07:03	CHK	45.4000			
27-MAR-2006 05:02	CHK	45.8000			
28-MAR-2006 04:55	CHK	46.1000			
29-MAR-2006 04:59	CHK	47.0000	In		
30-MAR-2006 05:03	CHK	45.4000			
31-MAR-2006 04:53	CHK	45.4000			
1-APR-2006 06:23	CHK	45.4000			
2-APR-2006 05:28	CHK	45.7000			
3-APR-2006 04:50	CHK	46.0000			
4-APR-2006 04:57	CHK	45.9000			
5-APR-2006 04:51	CHK	45.4000			
6-APR-2006 04:48	CHK	46.2000			
7-APR-2006 04:43	CHK	46.1000			
8-APR-2006 07:32	CHK	45.9000			
9-APR-2006 07:38	CHK	46.5000			
10-APR-2006 05:08	CHK	45.4000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

11-APR-2006 04:58	CHK		45.5000			
12-APR-2006 05:24	CHK		46.2000			

-- Multi-Test Full Report --

Description : quad 2c 1" beta %eff

Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 40.799999 Upper Bound : 44.400002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 42.586826 Std Deviation : 0.602860

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK		42.3000		
2-MAR-2006 05:04	CHK		42.3000		
3-MAR-2006 05:00	CHK		42.2000		
4-MAR-2006 06:02	CHK		43.3000		
6-MAR-2006 05:01	CHK		42.3000		
7-MAR-2006 04:57	CHK		41.7000		
8-MAR-2006 05:31	CHK		43.0000		
9-MAR-2006 05:30	CHK		43.0000		
10-MAR-2006 05:36	CHK		43.3000		
12-MAR-2006 07:37	CHK		43.3000		
13-MAR-2006 05:08	CHK		42.8000		
14-MAR-2006 04:53	CHK		42.4000		
15-MAR-2006 05:03	CHK		42.1000		
16-MAR-2006 04:53	CHK		42.6000		
17-MAR-2006 05:35	CHK		42.6000		
18-MAR-2006 07:02	CHK		41.2000	In	
20-MAR-2006 04:58	CHK		42.1000		
21-MAR-2006 04:55	CHK		42.1000		
22-MAR-2006 05:25	CHK		41.9000		
23-MAR-2006 05:28	CHK		41.9000		
24-MAR-2006 05:02	CHK		42.4000		
25-MAR-2006 07:03	CHK		41.8000		
27-MAR-2006 05:02	CHK		41.5000		
28-MAR-2006 04:55	CHK		43.3000		
29-MAR-2006 04:59	CHK		43.2000		
30-MAR-2006 05:03	CHK		42.4000		
31-MAR-2006 04:53	CHK		42.2000		
1-APR-2006 06:23	CHK		42.4000		
2-APR-2006 05:28	CHK		42.9000		
3-APR-2006 04:50	CHK		42.7000		

4-APR-2006 04:57	CHK	41.9000			
5-APR-2006 04:51	CHK	42.7000			
6-APR-2006 04:48	CHK	41.4000			
7-APR-2006 04:43	CHK	42.1000			
8-APR-2006 07:32	CHK	42.7000			
9-APR-2006 07:38	CHK	41.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-APR-2006 05:08	CHK		41.6000		
11-APR-2006 04:58	CHK		42.8000		
12-APR-2006 05:24	CHK		43.1000		

-- Multi-Test Full Report --

Description : quad 2d 1" beta %eff

Parameter Units : percent

Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.799999

Upper Bound : 45.560001

Investigate Level : 2.000000

Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.687500

Std Deviation : 0.624949

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 04:59	CHK		43.1000		
2-MAR-2006 05:04	CHK		43.7000		
3-MAR-2006 05:00	CHK		43.1000		
4-MAR-2006 06:02	CHK		44.5000		
6-MAR-2006 05:01	CHK		42.5000		
7-MAR-2006 04:57	CHK		43.1000		
8-MAR-2006 05:31	CHK		43.3000		
9-MAR-2006 05:30	CHK		43.6000		
10-MAR-2006 05:36	CHK		43.6000		
12-MAR-2006 07:37	CHK		42.8000		
13-MAR-2006 05:08	CHK		43.2000		
14-MAR-2006 04:53	CHK		43.7000		
15-MAR-2006 05:03	CHK		42.6000		

16-MAR-2006 04:53	CHK	44.2000			
17-MAR-2006 05:35	CHK	44.4000			
18-MAR-2006 07:02	CHK	43.3000			
20-MAR-2006 04:58	CHK	43.3000			
21-MAR-2006 04:55	CHK	43.6000			
22-MAR-2006 05:25	CHK	43.7000			
23-MAR-2006 05:28	CHK	43.4000			
24-MAR-2006 05:02	CHK	44.3000			
25-MAR-2006 07:03	CHK	43.4000			
27-MAR-2006 05:02	CHK	43.4000			
28-MAR-2006 04:55	CHK	44.5000			
29-MAR-2006 04:59	CHK	43.4000			
30-MAR-2006 05:03	CHK	43.2000			
31-MAR-2006 04:53	CHK	43.1000			
1-APR-2006 06:23	CHK	43.6000			
2-APR-2006 05:28	CHK	43.7000			
3-APR-2006 04:50	CHK	42.2000	In		
4-APR-2006 04:57	CHK	43.6000			
5-APR-2006 04:51	CHK	42.5000			
6-APR-2006 04:48	CHK	43.1000			
7-APR-2006 04:43	CHK	43.3000			
8-APR-2006 07:32	CHK	42.8000			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-APR-2006 07:38	CHK		43.5000	
10-APR-2006 05:08	CHK		43.3000	
11-APR-2006 04:58	CHK		42.8000	
12-APR-2006 05:24	CHK		42.7000	

Quality Assurance Report.

Generated 26-MAY-2006 11:36:37.16

QA Filename : \$DISK1:[QUAD2.QA]BKG_1.QAF;5

-- Multi-Test Full Report --

Description : quad 2a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38 BKG	0.2000			
2-MAR-2006 03:57 BKG	0.2100			
3-MAR-2006 02:29 BKG	0.2200			
4-MAR-2006 02:28 BKG	0.2400			
4-MAR-2006 22:05 BKG	0.1900			
5-MAR-2006 22:28 BKG	0.2000			
7-MAR-2006 03:32 BKG	0.2400			
8-MAR-2006 03:03 BKG	0.2200			
9-MAR-2006 03:22 BKG	0.3300			
10-MAR-2006 01:01 BKG	0.2200			
11-MAR-2006 03:14 BKG	0.2700			
11-MAR-2006 19:23 BKG	0.1900			
12-MAR-2006 19:58 BKG	0.2100			
14-MAR-2006 03:30 BKG	0.3200			
15-MAR-2006 01:38 BKG	0.2100			
16-MAR-2006 03:14 BKG	0.2500			
17-MAR-2006 03:37 BKG	0.2400			
18-MAR-2006 04:19 BKG	0.2300			
18-MAR-2006 20:15 BKG	0.2300			
19-MAR-2006 19:38 BKG	0.2200			
21-MAR-2006 02:49 BKG	0.2800			
22-MAR-2006 01:40 BKG	0.2400			
23-MAR-2006 04:56 BKG	0.2100			
24-MAR-2006 02:48 BKG	0.2300			
25-MAR-2006 02:23 BKG	0.2100			
25-MAR-2006 20:29 BKG	0.2200			
26-MAR-2006 21:19 BKG	0.2000			
28-MAR-2006 03:48 BKG	0.2400			
29-MAR-2006 03:09 BKG	0.2100			
30-MAR-2006 02:15 BKG	0.2200			
31-MAR-2006 02:08 BKG	0.2600			
1-APR-2006 02:32 BKG	0.2600			
1-APR-2006 20:32 BKG	0.2200			
2-APR-2006 20:05 BKG	0.2200			
4-APR-2006 02:32 BKG	0.3600			
5-APR-2006 01:37 BKG	0.2200			
6-APR-2006 04:02 BKG	0.2900			
7-APR-2006 02:26 BKG	0.2500			
8-APR-2006 04:21 BKG	0.2500			
8-APR-2006 21:11 BKG	0.2400			
9-APR-2006 21:25 BKG	0.1800			
11-APR-2006 03:09 BKG	0.2000			
12-APR-2006 02:48 BKG	0.2300			

-- Multi-Test Full Report --

Description : quad 2b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38	BKG		0.2500	
2-MAR-2006 03:57	BKG		0.1900	
3-MAR-2006 02:29	BKG		0.2400	
4-MAR-2006 02:28	BKG		0.2800	
4-MAR-2006 22:05	BKG		0.2400	
5-MAR-2006 22:28	BKG		0.2400	
7-MAR-2006 03:32	BKG		0.2100	
8-MAR-2006 03:03	BKG		0.2700	
9-MAR-2006 03:22	BKG		0.2800	
10-MAR-2006 01:01	BKG		0.2700	
11-MAR-2006 03:14	BKG		0.3100	
11-MAR-2006 19:23	BKG		0.2600	
12-MAR-2006 19:58	BKG		0.2700	
14-MAR-2006 03:30	BKG		0.2700	
15-MAR-2006 01:38	BKG		0.2400	
16-MAR-2006 03:14	BKG		0.2700	
17-MAR-2006 03:37	BKG		0.2800	
18-MAR-2006 04:19	BKG		0.2700	
18-MAR-2006 20:15	BKG		0.3000	
19-MAR-2006 19:38	BKG		0.2600	
21-MAR-2006 02:49	BKG		0.3100	
22-MAR-2006 01:40	BKG		0.2900	
23-MAR-2006 04:56	BKG		0.3000	
24-MAR-2006 02:48	BKG		0.2600	
25-MAR-2006 02:23	BKG		0.2500	
25-MAR-2006 20:29	BKG		0.2600	
26-MAR-2006 21:19	BKG		0.2200	
28-MAR-2006 03:48	BKG		0.3000	
29-MAR-2006 03:09	BKG		0.3400	
30-MAR-2006 02:15	BKG		0.2600	
31-MAR-2006 02:08	BKG		0.2800	

1-APR-2006 02:32	BKG	0.2600			
1-APR-2006 20:32	BKG	0.3000			
2-APR-2006 20:05	BKG	0.2200			
4-APR-2006 02:32	BKG	0.2500			
5-APR-2006 01:37	BKG	0.2800			
6-APR-2006 04:02	BKG	0.2500			
7-APR-2006 02:26	BKG	0.2800			
8-APR-2006 04:21	BKG	0.2100			
8-APR-2006 21:11	BKG	0.2400			
9-APR-2006 21:25	BKG	0.2400			
11-APR-2006 03:09	BKG	0.2800			
12-APR-2006 02:48	BKG	0.2900			

-- Multi-Test Full Report --

Description : quad 2c 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 02:38	BKG		0.2000		
2-MAR-2006 03:57	BKG		0.2400		
3-MAR-2006 02:29	BKG		0.2100		
4-MAR-2006 02:28	BKG		0.2500		

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-MAR-2006 22:05	BKG		0.2800		
5-MAR-2006 22:28	BKG		0.2000		
7-MAR-2006 03:32	BKG		0.2100		
8-MAR-2006 03:03	BKG		0.2600		
9-MAR-2006 03:22	BKG		0.2400		
10-MAR-2006 01:01	BKG		0.2600		
11-MAR-2006 03:14	BKG		0.2400		
11-MAR-2006 19:23	BKG		0.2200		
12-MAR-2006 19:58	BKG		0.2400		
14-MAR-2006 03:30	BKG		0.2600		
15-MAR-2006 01:38	BKG		0.2700		
16-MAR-2006 03:14	BKG		0.2800		
17-MAR-2006 03:37	BKG		0.2500		
18-MAR-2006 04:19	BKG		0.2200		
18-MAR-2006 20:15	BKG		0.2300		

19-MAR-2006 19:38	BKG	0.2100			
21-MAR-2006 02:49	BKG	0.3200			
22-MAR-2006 01:40	BKG	0.2700			
23-MAR-2006 04:56	BKG	0.2500			
24-MAR-2006 02:48	BKG	0.2800			
25-MAR-2006 02:23	BKG	0.2600			
25-MAR-2006 20:29	BKG	0.2200			
26-MAR-2006 21:19	BKG	0.2400			
28-MAR-2006 03:48	BKG	0.2800			
29-MAR-2006 03:09	BKG	0.2700			
30-MAR-2006 02:15	BKG	0.2400			
31-MAR-2006 02:08	BKG	0.3000			
1-APR-2006 02:32	BKG	0.1900			
1-APR-2006 20:32	BKG	0.2600			
2-APR-2006 20:05	BKG	0.2500			
4-APR-2006 02:32	BKG	0.4600			
5-APR-2006 01:37	BKG	0.2700			
6-APR-2006 04:02	BKG	0.2400			
7-APR-2006 02:26	BKG	0.3200			
8-APR-2006 04:21	BKG	0.2300			
8-APR-2006 21:11	BKG	0.2600			
9-APR-2006 21:25	BKG	0.2400			
11-APR-2006 03:09	BKG	0.2600			
12-APR-2006 02:48	BKG	0.2400			

-- Multi-Test Full Report --

Description : quad 2d 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:38	BKG		0.2400			
2-MAR-2006 03:57	BKG		0.2200			
3-MAR-2006 02:29	BKG		0.2700			
4-MAR-2006 02:28	BKG		0.2500			
4-MAR-2006 22:05	BKG		0.2300			
5-MAR-2006 22:28	BKG		0.2100			
7-MAR-2006 03:32	BKG		0.2300			
8-MAR-2006 03:03	BKG		0.2800			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

9-MAR-2006 03:22 BKG	0.2700			
10-MAR-2006 01:01 BKG	0.2300			
11-MAR-2006 03:14 BKG	0.2100			
11-MAR-2006 19:23 BKG	0.2200			
12-MAR-2006 19:58 BKG	0.2400			
14-MAR-2006 03:30 BKG	0.2300			
15-MAR-2006 01:38 BKG	0.1900			
16-MAR-2006 03:14 BKG	0.2700			
17-MAR-2006 03:37 BKG	0.2500			
18-MAR-2006 04:19 BKG	0.2400			
18-MAR-2006 20:15 BKG	0.1900			
19-MAR-2006 19:38 BKG	0.2200			
21-MAR-2006 02:49 BKG	0.2600			
22-MAR-2006 01:40 BKG	0.2600			
23-MAR-2006 04:56 BKG	0.2200			
24-MAR-2006 02:48 BKG	0.2900			
25-MAR-2006 02:23 BKG	0.2300			
25-MAR-2006 20:29 BKG	0.2300			
26-MAR-2006 21:19 BKG	0.2100			
28-MAR-2006 03:48 BKG	0.2300			
29-MAR-2006 03:09 BKG	0.2400			
30-MAR-2006 02:15 BKG	0.1900			
31-MAR-2006 02:08 BKG	0.3000			
1-APR-2006 02:32 BKG	0.2400			
1-APR-2006 20:32 BKG	0.2400			
2-APR-2006 20:05 BKG	0.2400			
4-APR-2006 02:32 BKG	0.3400			
5-APR-2006 01:37 BKG	0.2400			
6-APR-2006 04:02 BKG	0.2700			
7-APR-2006 02:26 BKG	0.2600			
8-APR-2006 04:21 BKG	0.2300			
8-APR-2006 21:11 BKG	0.2300			
9-APR-2006 21:25 BKG	0.2400			
11-APR-2006 03:09 BKG	0.1900			
12-APR-2006 02:48 BKG	0.2400			

Quality Assurance Report.

Generated 26-MAY-2006 11:36:45.28

QA Filename : \$DISK1:[QUAD3.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 3a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.500000 Upper Bound : 44.680000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.085625 Std Deviation : 0.532568

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK		43.2000		
2-MAR-2006 05:04	CHK		44.5000	In	
3-MAR-2006 04:55	CHK		41.9000	In	
4-MAR-2006 06:02	CHK		42.4000		
6-MAR-2006 05:01	CHK		43.2000		
7-MAR-2006 04:57	CHK		43.1000		
8-MAR-2006 05:31	CHK		42.2000		
9-MAR-2006 05:30	CHK		42.2000		
10-MAR-2006 05:36	CHK		43.0000		
13-MAR-2006 05:08	CHK		42.6000		
14-MAR-2006 04:54	CHK		43.1000		
15-MAR-2006 05:03	CHK		43.4000		
16-MAR-2006 04:53	CHK		42.1000		
17-MAR-2006 05:35	CHK		42.6000		
18-MAR-2006 07:07	CHK		42.9000		
19-MAR-2006 07:09	CHK		42.1000		
20-MAR-2006 04:58	CHK		43.3000		
21-MAR-2006 04:55	CHK		43.4000		
22-MAR-2006 05:30	CHK		42.7000		
23-MAR-2006 05:28	CHK		41.9000	In	
24-MAR-2006 05:02	CHK		43.0000		

25-MAR-2006 07:03	CHK	42.4000			
26-MAR-2006 06:54	bkg	No Value			
26-MAR-2006 07:22	CHK	42.2000			
27-MAR-2006 05:01	CHK	42.8000			
28-MAR-2006 04:55	CHK	43.8000			
29-MAR-2006 04:59	CHK	42.6000			
30-MAR-2006 05:03	CHK	42.7000			
31-MAR-2006 04:53	CHK	42.9000			
1-APR-2006 06:28	CHK	42.9000			
2-APR-2006 05:29	CHK	42.6000			
3-APR-2006 04:44	CHK	43.2000			
4-APR-2006 04:57	CHK	42.5000			
5-APR-2006 04:46	CHK	42.6000			
6-APR-2006 04:48	CHK	42.7000			
7-APR-2006 04:43	CHK	42.9000			
8-APR-2006 07:32	CHK	43.5000			
9-APR-2006 07:38	CHK	41.9000	[In]		

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-APR-2006 05:08	CHK	42.1000			
11-APR-2006 04:58	CHK	43.3000			
12-APR-2006 05:29	CHK	42.8000			

-- Multi-Test Full Report --

Description : quad 3b 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 42.869999 Upper Bound : 46.009998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 44.445625 Std Deviation : 0.522434

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 04:59	CHK	44.1000			
2-MAR-2006 05:04	CHK	44.6000			

3-MAR-2006 04:55	CHK	44.3000			
4-MAR-2006 06:02	CHK	44.4000			
6-MAR-2006 05:01	CHK	44.4000			
7-MAR-2006 04:57	CHK	44.7000			
8-MAR-2006 05:31	CHK	44.4000			
9-MAR-2006 05:30	CHK	44.5000			
10-MAR-2006 05:36	CHK	44.0000			
13-MAR-2006 05:08	CHK	44.3000			
14-MAR-2006 04:54	CHK	44.6000			
15-MAR-2006 05:03	CHK	44.1000			
16-MAR-2006 04:53	CHK	44.7000			
17-MAR-2006 05:35	CHK	43.9000			
18-MAR-2006 07:07	CHK	44.6000			
19-MAR-2006 07:09	CHK	44.0000			
20-MAR-2006 04:58	CHK	43.8000			
21-MAR-2006 04:55	CHK	44.3000			
22-MAR-2006 05:30	CHK	43.7000			
23-MAR-2006 05:28	CHK	44.5000			
24-MAR-2006 05:02	CHK	44.3000			
25-MAR-2006 07:03	CHK	43.6000			
26-MAR-2006 06:54	bkg	No Value			
26-MAR-2006 07:22	CHK	43.7000			
27-MAR-2006 05:01	CHK	43.6000			
28-MAR-2006 04:55	CHK	45.7000	In		
29-MAR-2006 04:59	CHK	45.8000	In		
30-MAR-2006 05:03	CHK	44.0000			
31-MAR-2006 04:53	CHK	44.9000			
1-APR-2006 06:28	CHK	44.4000			
2-APR-2006 05:29	CHK	44.6000			
3-APR-2006 04:44	CHK	43.9000			
4-APR-2006 04:57	CHK	44.8000			
5-APR-2006 04:46	CHK	43.4000	In		
6-APR-2006 04:48	CHK	44.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

7-APR-2006 04:43	CHK	44.2000			
8-APR-2006 07:32	CHK	44.8000			
9-APR-2006 07:38	CHK	44.2000			
10-APR-2006 05:08	CHK	43.9000			
11-APR-2006 04:58	CHK	44.2000			
12-APR-2006 05:29	CHK	44.9000			

-- Multi-Test Full Report --

Description : quad 3c 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.080002 Upper Bound : 47.900002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 45.983124 Std Deviation : 0.569146

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK		46.3000		
2-MAR-2006 05:04	CHK		45.9000		
3-MAR-2006 04:55	CHK		46.2000		
4-MAR-2006 06:02	CHK		45.2000		
6-MAR-2006 05:01	CHK		46.1000		
7-MAR-2006 04:57	CHK		45.4000		
8-MAR-2006 05:31	CHK		45.3000		
9-MAR-2006 05:30	CHK		45.2000		
10-MAR-2006 05:36	CHK		46.1000		
13-MAR-2006 05:08	CHK		45.3000		
14-MAR-2006 04:54	CHK		45.6000		
15-MAR-2006 05:03	CHK		45.4000		
16-MAR-2006 04:53	CHK		46.2000		
17-MAR-2006 05:35	CHK		45.3000		
18-MAR-2006 07:07	CHK		45.1000		
19-MAR-2006 07:09	CHK		45.1000		
20-MAR-2006 04:58	CHK		45.8000		
21-MAR-2006 04:55	CHK		45.3000		
22-MAR-2006 05:30	CHK		45.4000		
23-MAR-2006 05:28	CHK		45.2000		
24-MAR-2006 05:02	CHK		46.2000		
25-MAR-2006 07:03	CHK		45.3000		
26-MAR-2006 06:54	bkg	No Value			
26-MAR-2006 07:22	CHK		44.4000	In	
27-MAR-2006 05:01	CHK		45.6000		
28-MAR-2006 04:55	CHK		46.1000		

29-MAR-2006 04:59	CHK	46.2000			
30-MAR-2006 05:03	CHK	45.4000			
31-MAR-2006 04:53	CHK	45.4000			
1-APR-2006 06:28	CHK	45.8000			
2-APR-2006 05:29	CHK	45.8000			
3-APR-2006 04:44	CHK	46.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-APR-2006 04:57	CHK		45.9000		
5-APR-2006 04:46	CHK		45.4000		
6-APR-2006 04:48	CHK		45.3000		
7-APR-2006 04:43	CHK		45.8000		
8-APR-2006 07:32	CHK		45.8000		
9-APR-2006 07:38	CHK		45.7000		
10-APR-2006 05:08	CHK		46.0000		
11-APR-2006 04:58	CHK		44.8000	In	
12-APR-2006 05:29	CHK		45.5000		

-- Multi-Test Full Report --

Description : quad 3d 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.299999 Upper Bound : 47.799999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 46.038124 Std Deviation : 0.573291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 04:59	CHK		46.3000		
2-MAR-2006 05:04	CHK		46.3000		
3-MAR-2006 04:55	CHK		46.6000		
4-MAR-2006 06:02	CHK		45.2000		
6-MAR-2006 05:01	CHK		45.8000		
7-MAR-2006 04:57	CHK		46.6000		
8-MAR-2006 05:31	CHK		45.7000		

9-MAR-2006 05:30	CHK	46.4000			
10-MAR-2006 05:36	CHK	45.0000			
13-MAR-2006 05:08	CHK	45.9000			
14-MAR-2006 04:54	CHK	45.5000			
15-MAR-2006 05:03	CHK	45.9000			
16-MAR-2006 04:53	CHK	46.4000			
17-MAR-2006 05:35	CHK	46.3000			
18-MAR-2006 07:07	CHK	45.7000			
19-MAR-2006 07:09	CHK	45.6000			
20-MAR-2006 04:58	CHK	45.7000			
21-MAR-2006 04:55	CHK	46.3000			
22-MAR-2006 05:30	CHK	46.3000			
23-MAR-2006 05:28	CHK	45.5000			
24-MAR-2006 05:02	CHK	46.0000			
25-MAR-2006 07:03	CHK	46.2000			
26-MAR-2006 06:54	bkg	No Value			
26-MAR-2006 07:22	CHK	45.3000			
27-MAR-2006 05:01	CHK	45.4000			
28-MAR-2006 04:55	CHK	46.9000			
29-MAR-2006 04:59	CHK	45.9000			
30-MAR-2006 05:03	CHK	46.4000			
31-MAR-2006 04:53	CHK	46.2000			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-APR-2006 06:28	CHK	45.5000			
2-APR-2006 05:29	CHK	46.1000			
3-APR-2006 04:44	CHK	45.3000			
4-APR-2006 04:57	CHK	45.5000			
5-APR-2006 04:46	CHK	46.2000			
6-APR-2006 04:48	CHK	45.8000			
7-APR-2006 04:43	CHK	46.4000			
8-APR-2006 07:32	CHK	45.4000			
9-APR-2006 07:38	CHK	45.1000			
10-APR-2006 05:08	CHK	45.2000			
11-APR-2006 04:58	CHK	45.0000			
12-APR-2006 05:29	CHK	45.8000			

Quality Assurance Report.

Generated 26-MAY-2006 11:36:46.41

QA Filename : \$DISK1:[QUAD3.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 3a 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.240319 Std Deviation : 0.080718

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38	BKG		0.2000	
2-MAR-2006 03:57	BKG		0.1900	
3-MAR-2006 00:54	BKG		0.2500	
4-MAR-2006 02:23	BKG		0.3100	
4-MAR-2006 22:05	BKG		0.2000	
5-MAR-2006 22:23	BKG		0.2200	
7-MAR-2006 03:32	BKG		0.2100	
8-MAR-2006 03:03	BKG		0.2200	
9-MAR-2006 03:22	BKG		0.2300	
10-MAR-2006 01:31	BKG		0.2800	
11-MAR-2006 03:14	BKG		0.3100	
11-MAR-2006 19:23	BKG		0.2400	
12-MAR-2006 19:58	BKG		0.2300	
14-MAR-2006 02:20	BKG		0.2400	
15-MAR-2006 01:33	BKG		0.2400	
16-MAR-2006 03:14	BKG		0.2600	
17-MAR-2006 03:32	BKG		0.2600	
18-MAR-2006 04:19	BKG		0.2600	
18-MAR-2006 20:15	BKG		0.2200	
19-MAR-2006 19:38	BKG		0.1900	
21-MAR-2006 02:44	BKG		0.2400	
22-MAR-2006 01:35	BKG		0.2400	
23-MAR-2006 04:51	BKG		0.2400	
24-MAR-2006 02:43	BKG		0.3100	
25-MAR-2006 02:23	BKG		0.2200	
25-MAR-2006 20:29	BKG		0.2000	
26-MAR-2006 21:14	BKG		0.2000	
28-MAR-2006 03:48	BKG		0.2300	
29-MAR-2006 03:09	BKG		0.3300	

30-MAR-2006 02:56	BKG	0.2600	
31-MAR-2006 02:08	BKG	0.2900	
1-APR-2006 02:32	BKG	0.2000	
1-APR-2006 20:32	BKG	0.2300	
2-APR-2006 20:05	BKG	0.2200	
4-APR-2006 02:32	BKG	0.2600	
5-APR-2006 01:32	BKG	0.2100	
6-APR-2006 04:02	BKG	0.2900	
7-APR-2006 02:16	BKG	0.2700	
8-APR-2006 02:46	BKG	0.1800	
8-APR-2006 21:11	BKG	0.1700	
9-APR-2006 21:26	BKG	0.2100	

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

11-APR-2006 03:09	BKG	0.2100	
12-APR-2006 02:48	BKG	0.8300	Ac

← 3A not used on this date

-- Multi-Test Full Report --

Description : quad 3b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.261968 Std Deviation : 0.056254

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38	BKG	0.2500	
2-MAR-2006 03:57	BKG	0.2800	
3-MAR-2006 00:54	BKG	0.2600	
4-MAR-2006 02:23	BKG	0.2300	
4-MAR-2006 22:05	BKG	0.2800	
5-MAR-2006 22:23	BKG	0.2500	
7-MAR-2006 03:32	BKG	0.2400	
8-MAR-2006 03:03	BKG	0.2700	
9-MAR-2006 03:22	BKG	0.2900	
10-MAR-2006 01:31	BKG	0.2300	
11-MAR-2006 03:14	BKG	0.2700	

11-MAR-2006 19:23	BKG	0.2700			
12-MAR-2006 19:58	BKG	0.2100			
14-MAR-2006 02:20	BKG	0.2500			
15-MAR-2006 01:33	BKG	0.2000			
16-MAR-2006 03:14	BKG	0.2800			
17-MAR-2006 03:32	BKG	0.2700			
18-MAR-2006 04:19	BKG	0.2200			
18-MAR-2006 20:15	BKG	0.2500			
19-MAR-2006 19:38	BKG	0.2600			
21-MAR-2006 02:44	BKG	0.3200			
22-MAR-2006 01:35	BKG	0.2300			
23-MAR-2006 04:51	BKG	0.2900			
24-MAR-2006 02:43	BKG	0.2500			
25-MAR-2006 02:23	BKG	0.2200			
25-MAR-2006 20:29	BKG	0.3100			
26-MAR-2006 21:14	BKG	0.2400			
28-MAR-2006 03:48	BKG	0.2700			
29-MAR-2006 03:09	BKG	0.2400			
30-MAR-2006 02:56	BKG	0.3300			
31-MAR-2006 02:08	BKG	0.3100			
1-APR-2006 02:32	BKG	0.2800			
1-APR-2006 20:32	BKG	0.2700			
2-APR-2006 20:05	BKG	0.2800			
4-APR-2006 02:32	BKG	0.3300			
5-APR-2006 01:32	BKG	0.2400			
6-APR-2006 04:02	BKG	0.2200			
7-APR-2006 02:16	BKG	0.3100			
8-APR-2006 02:46	BKG	0.2500			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

8-APR-2006 21:11	BKG	0.2400			
9-APR-2006 21:26	BKG	0.2400			
11-APR-2006 03:09	BKG	0.2300			
12-APR-2006 02:48	BKG	0.3500			

-- Multi-Test Full Report --

Description : quad 3c 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.279255 Std Deviation : 0.037036

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:38	BKG		0.3000		
2-MAR-2006 03:57	BKG		0.3100		
3-MAR-2006 00:54	BKG		0.2900		
4-MAR-2006 02:23	BKG		0.3000		
4-MAR-2006 22:05	BKG		0.2600		
5-MAR-2006 22:23	BKG		0.2300		
7-MAR-2006 03:32	BKG		0.2600		
8-MAR-2006 03:03	BKG		0.3000		
9-MAR-2006 03:22	BKG		0.2900		
10-MAR-2006 01:31	BKG		0.2700		
11-MAR-2006 03:14	BKG		0.2800		
11-MAR-2006 19:23	BKG		0.2500		
12-MAR-2006 19:58	BKG		0.2500		
14-MAR-2006 02:20	BKG		0.3100		
15-MAR-2006 01:33	BKG		0.2700		
16-MAR-2006 03:14	BKG		0.3300		
17-MAR-2006 03:32	BKG		0.2800		
18-MAR-2006 04:19	BKG		0.2900		
18-MAR-2006 20:15	BKG		0.2300		
19-MAR-2006 19:38	BKG		0.2900		
21-MAR-2006 02:44	BKG		0.2700		
22-MAR-2006 01:35	BKG		0.2500		
23-MAR-2006 04:51	BKG		0.2700		
24-MAR-2006 02:43	BKG		0.3200		
25-MAR-2006 02:23	BKG		0.2800		
25-MAR-2006 20:29	BKG		0.3000		
26-MAR-2006 21:14	BKG		0.2200		
28-MAR-2006 03:48	BKG		0.2800		
29-MAR-2006 03:09	BKG		0.2700		
30-MAR-2006 02:56	BKG		0.2600		
31-MAR-2006 02:08	BKG		0.2900		
1-APR-2006 02:32	BKG		0.3100		
1-APR-2006 20:32	BKG		0.2800		
2-APR-2006 20:05	BKG		0.2700		
4-APR-2006 02:32	BKG		0.2800		
5-APR-2006 01:32	BKG		0.2900		

6-APR-2006 04:02 BKG 0.2700 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

7-APR-2006 02:16	BKG		0.2900	
8-APR-2006 02:46	BKG		0.2500	
8-APR-2006 21:11	BKG		0.2500	
9-APR-2006 21:26	BKG		0.2900	
11-APR-2006 03:09	BKG		0.2400	
12-APR-2006 02:48	BKG		0.3000	

-- Multi-Test Full Report --

Description : quad 3d 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.233936 Std Deviation : 0.037778

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38	BKG		0.2300	
2-MAR-2006 03:57	BKG		0.2900	
3-MAR-2006 00:54	BKG		0.2500	
4-MAR-2006 02:23	BKG		0.2200	
4-MAR-2006 22:05	BKG		0.2400	
5-MAR-2006 22:23	BKG		0.2500	
7-MAR-2006 03:32	BKG		0.2100	
8-MAR-2006 03:03	BKG		0.2800	
9-MAR-2006 03:22	BKG		0.2500	
10-MAR-2006 01:31	BKG		0.2500	
11-MAR-2006 03:14	BKG		0.2000	
11-MAR-2006 19:23	BKG		0.2100	
12-MAR-2006 19:58	BKG		0.1800	
14-MAR-2006 02:20	BKG		0.2300	
15-MAR-2006 01:33	BKG		0.2300	
16-MAR-2006 03:14	BKG		0.2600	
17-MAR-2006 03:32	BKG		0.2100	
18-MAR-2006 04:19	BKG		0.2400	

18-MAR-2006 20:15	BKG	0.2500			
19-MAR-2006 19:38	BKG	0.2600			
21-MAR-2006 02:44	BKG	0.2800			
22-MAR-2006 01:35	BKG	0.2300			
23-MAR-2006 04:51	BKG	0.2100			
24-MAR-2006 02:43	BKG	0.2400			
25-MAR-2006 02:23	BKG	0.2100			
25-MAR-2006 20:29	BKG	0.2200			
26-MAR-2006 21:14	BKG	0.2300			
28-MAR-2006 03:48	BKG	0.2600			
29-MAR-2006 03:09	BKG	0.2700			
30-MAR-2006 02:56	BKG	0.2900			
31-MAR-2006 02:08	BKG	0.2400			
1-APR-2006 02:32	BKG	0.2400			
1-APR-2006 20:32	BKG	0.2300			
2-APR-2006 20:05	BKG	0.2100			
4-APR-2006 02:32	BKG	0.2600			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

5-APR-2006 01:32	BKG	0.2200			
6-APR-2006 04:02	BKG	0.2800			
7-APR-2006 02:16	BKG	0.2400			
8-APR-2006 02:46	BKG	0.2100			
8-APR-2006 21:11	BKG	0.2100			
9-APR-2006 21:26	BKG	0.2100			
11-APR-2006 03:09	BKG	0.2700			
12-APR-2006 02:48	BKG	0.2600			

Quality Assurance Report.

Generated 26-MAY-2006 11:36:57.63

QA Filename : \$DISK1:[QUAD4.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 4a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 45.700001 Upper Bound : 48.900002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 47.197559 Std Deviation : 0.539479

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:59	CHK		47.6000		
2-MAR-2006 05:04	CHK		47.3000		
3-MAR-2006 04:55	CHK		47.5000		
4-MAR-2006 05:57	CHK		47.0000		
6-MAR-2006 04:56	CHK		47.2000		
7-MAR-2006 04:57	CHK		46.4000		
8-MAR-2006 05:31	CHK		46.4000		
9-MAR-2006 05:31	CHK		46.7000		
10-MAR-2006 05:36	CHK		46.9000		
13-MAR-2006 05:03	CHK		46.7000		
14-MAR-2006 04:49	CHK		46.3000		
15-MAR-2006 04:58	CHK		47.2000		
16-MAR-2006 04:53	CHK		46.4000		
17-MAR-2006 05:35	CHK		46.6000		
18-MAR-2006 07:07	CHK		46.6000		
19-MAR-2006 07:09	CHK		46.9000		
20-MAR-2006 04:58	CHK		46.7000		
21-MAR-2006 04:50	CHK		48.3000	In	
22-MAR-2006 05:30	CHK		47.6000		
23-MAR-2006 05:29	CHK		46.1000	In	
24-MAR-2006 04:57	CHK		47.0000		

25-MAR-2006 07:08	CHK	47.1000	
26-MAR-2006 07:17	CHK	46.3000	
27-MAR-2006 05:01	CHK	46.6000	
28-MAR-2006 04:55	CHK	48.5000	In
29-MAR-2006 04:59	CHK	46.7000	
30-MAR-2006 05:03	CHK	47.0000	
31-MAR-2006 04:53	CHK	47.2000	
1-APR-2006 06:28	CHK	46.7000	
2-APR-2006 05:24	CHK	46.6000	
3-APR-2006 04:44	CHK	46.4000	
4-APR-2006 04:52	CHK	46.6000	
5-APR-2006 04:51	CHK	47.2000	
6-APR-2006 04:48	CHK	46.8000	
7-APR-2006 04:49	CHK	47.1000	
8-APR-2006 07:32	CHK	47.6000	
9-APR-2006 07:39	CHK	46.7000	
10-APR-2006 05:08	CHK	46.1000	In

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

11-APR-2006 04:58	CHK		47.4000	
12-APR-2006 05:29	CHK		47.1000	

-- Multi-Test Full Report --

Description : quad 4b 1" beta %eff

Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 43.250000 Upper Bound : 46.599998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 44.903660 Std Deviation : 0.550392

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 04:59	CHK		44.4000	
2-MAR-2006 05:04	CHK		44.7000	
3-MAR-2006 04:55	CHK		45.4000	

4-MAR-2006 05:57	CHK	44.1000			
6-MAR-2006 04:56	CHK	44.7000			
7-MAR-2006 04:57	CHK	44.3000			
8-MAR-2006 05:31	CHK	43.8000	In		
9-MAR-2006 05:31	CHK	44.5000			
10-MAR-2006 05:36	CHK	45.0000			
13-MAR-2006 05:03	CHK	44.0000			
14-MAR-2006 04:49	CHK	44.1000			
15-MAR-2006 04:58	CHK	44.7000			
16-MAR-2006 04:53	CHK	45.6000			
17-MAR-2006 05:35	CHK	44.9000			
18-MAR-2006 07:07	CHK	44.9000			
19-MAR-2006 07:09	CHK	44.6000			
20-MAR-2006 04:58	CHK	44.0000			
21-MAR-2006 04:50	CHK	45.4000			
22-MAR-2006 05:30	CHK	44.7000			
23-MAR-2006 05:29	CHK	44.2000			
24-MAR-2006 04:57	CHK	44.5000			
25-MAR-2006 07:08	CHK	44.9000			
26-MAR-2006 07:17	CHK	44.2000			
27-MAR-2006 05:01	CHK	45.2000			
28-MAR-2006 04:55	CHK	46.0000			
29-MAR-2006 04:59	CHK	45.4000			
30-MAR-2006 05:03	CHK	44.1000			
31-MAR-2006 04:53	CHK	44.7000			
1-APR-2006 06:28	CHK	43.8000	In		
2-APR-2006 05:24	CHK	44.4000			
3-APR-2006 04:44	CHK	44.8000			
4-APR-2006 04:52	CHK	45.1000			
5-APR-2006 04:51	CHK	44.6000			
6-APR-2006 04:48	CHK	45.6000			
7-APR-2006 04:49	CHK	45.2000			
8-APR-2006 07:32	CHK	44.9000			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
9-APR-2006 07:39	CHK	44.6000			
10-APR-2006 05:08	CHK	44.8000			
11-APR-2006 04:58	CHK	44.3000			
12-APR-2006 05:29	CHK	45.3000			

-- Multi-Test Full Report --

Description : quad 4c 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.299999 Upper Bound : 45.400002

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.313251 Std Deviation : 0.679174

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:59	CHK		43.6000	
2-MAR-2006 05:04	CHK		43.8000	
3-MAR-2006 04:55	CHK		44.6000	
4-MAR-2006 05:57	CHK		44.0000	
6-MAR-2006 04:56	CHK		44.4000	
7-MAR-2006 04:57	CHK		42.8000	
8-MAR-2006 05:31	CHK		42.4000	
9-MAR-2006 05:31	CHK		43.0000	
10-MAR-2006 05:36	CHK		42.7000	
13-MAR-2006 05:03	CHK		44.1000	
14-MAR-2006 04:49	CHK		41.5000	In
15-MAR-2006 04:58	CHK		42.5000	
16-MAR-2006 04:53	CHK		43.1000	
17-MAR-2006 05:35	CHK		43.0000	
18-MAR-2006 07:07	CHK		43.4000	
19-MAR-2006 07:09	CHK		42.6000	
20-MAR-2006 04:58	CHK		43.2000	
21-MAR-2006 04:50	CHK		43.7000	
22-MAR-2006 05:30	CHK		43.8000	
23-MAR-2006 05:29	CHK		42.3000	
24-MAR-2006 04:57	CHK		44.0000	
25-MAR-2006 07:08	CHK		43.1000	
26-MAR-2006 07:17	CHK		42.7000	
27-MAR-2006 05:01	CHK		42.5000	
28-MAR-2006 04:55	CHK		44.1000	
29-MAR-2006 04:59	CHK		44.0000	
30-MAR-2006 05:03	CHK		42.5000	
31-MAR-2006 04:53	CHK		43.4000	

1-APR-2006 06:28	CHK	43.6000			
2-APR-2006 05:24	CHK	42.5000			
3-APR-2006 04:44	CHK	42.8000			
4-APR-2006 04:52	CHK	43.6000			
5-APR-2006 04:51	CHK	43.5000			
6-APR-2006 04:48	CHK	43.0000			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

7-APR-2006 04:49	CHK		42.5000		
8-APR-2006 07:32	CHK		43.5000		
9-APR-2006 07:39	CHK		43.0000		
10-APR-2006 05:08	CHK		43.7000		
11-APR-2006 04:58	CHK		43.2000		
12-APR-2006 05:29	CHK		43.0000		

-- Multi-Test Full Report --

Description : quad 4d 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 42.070000 Upper Bound : 45.700001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.883537 Std Deviation : 0.603698

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

1-MAR-2006 04:59	CHK		44.1000		
2-MAR-2006 05:04	CHK		44.6000		
3-MAR-2006 04:55	CHK		44.2000		
4-MAR-2006 05:57	CHK		44.0000		
6-MAR-2006 04:56	CHK		43.6000		
7-MAR-2006 04:57	CHK		43.9000		
8-MAR-2006 05:31	CHK		42.7000		
9-MAR-2006 05:31	CHK		43.2000		
10-MAR-2006 05:36	CHK		43.0000		
13-MAR-2006 05:03	CHK		43.5000		

14-MAR-2006 04:49	CHK	43.3000			
15-MAR-2006 04:58	CHK	43.8000			
16-MAR-2006 04:53	CHK	43.9000			
17-MAR-2006 05:35	CHK	44.2000			
18-MAR-2006 07:07	CHK	42.8000			
19-MAR-2006 07:09	CHK	43.3000			
20-MAR-2006 04:58	CHK	43.9000			
21-MAR-2006 04:50	CHK	44.8000			
22-MAR-2006 05:30	CHK	43.7000			
23-MAR-2006 05:29	CHK	43.8000			
24-MAR-2006 04:57	CHK	43.2000			
25-MAR-2006 07:08	CHK	43.6000			
26-MAR-2006 07:17	CHK	43.1000			
27-MAR-2006 05:01	CHK	43.0000			
28-MAR-2006 04:55	CHK	45.0000			
29-MAR-2006 04:59	CHK	45.2000	In		
30-MAR-2006 05:03	CHK	43.9000			
31-MAR-2006 04:53	CHK	44.6000			
1-APR-2006 06:28	CHK	43.6000			
2-APR-2006 05:24	CHK	44.0000			
3-APR-2006 04:44	CHK	44.2000			
4-APR-2006 04:52	CHK	43.1000			

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

5-APR-2006 04:51	CHK	44.2000			
6-APR-2006 04:48	CHK	43.4000			
7-APR-2006 04:49	CHK	43.2000			
8-APR-2006 07:32	CHK	43.4000			
9-APR-2006 07:39	CHK	43.1000			
10-APR-2006 05:08	CHK	42.9000			
11-APR-2006 04:58	CHK	44.4000			
12-APR-2006 05:29	CHK	42.4000	In		

Quality Assurance Report.

Generated 26-MAY-2006 11:36:58.79

QA Filename : \$DISK1:[QUAD4.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 4a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.345842 Std Deviation : 0.075943

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:38	BKG		0.3000		
2-MAR-2006 03:57	BKG		0.3400		
3-MAR-2006 02:20	BKG		0.3100		
4-MAR-2006 02:28	BKG		0.3400		
4-MAR-2006 22:05	BKG		0.3100		
5-MAR-2006 22:28	BKG		0.3300		
7-MAR-2006 02:22	BKG		0.3200		
8-MAR-2006 03:03	BKG		0.3200		
9-MAR-2006 02:37	BKG		0.4500		
10-MAR-2006 01:32	BKG		0.3400		
11-MAR-2006 03:14	BKG		0.2600		
11-MAR-2006 19:23	BKG		0.2600		
12-MAR-2006 19:58	BKG		0.2400		
14-MAR-2006 03:26	BKG		0.3600		
15-MAR-2006 01:33	BKG		0.2200		
16-MAR-2006 03:14	BKG		0.3300		
17-MAR-2006 03:37	BKG		0.3400		
18-MAR-2006 04:19	BKG		0.2700		
18-MAR-2006 20:15	BKG		0.2700		
19-MAR-2006 19:38	BKG		0.2800		
21-MAR-2006 02:44	BKG		0.3400		
22-MAR-2006 01:40	BKG		0.3000		
23-MAR-2006 04:51	BKG		0.3000		
24-MAR-2006 02:43	BKG		0.2800		
25-MAR-2006 02:23	BKG		0.3600		
25-MAR-2006 20:29	BKG		0.3300		
26-MAR-2006 21:19	BKG		0.2700		
28-MAR-2006 03:49	BKG		0.4700		
29-MAR-2006 03:09	BKG		0.5600	[In]	
30-MAR-2006 02:56	BKG		0.3700		
31-MAR-2006 02:09	BKG		0.3800		
1-APR-2006 02:32	BKG		0.3800		
1-APR-2006 20:32	BKG		0.3000		

2-APR-2006 20:05	BKG	0.2200			
4-APR-2006 02:32	BKG	0.3600			
5-APR-2006 01:38	BKG	0.3200			
6-APR-2006 04:03	BKG	0.4400			
7-APR-2006 02:22	BKG	0.3200			
8-APR-2006 02:21	BKG	0.2800			
8-APR-2006 21:12	BKG	0.2900			
9-APR-2006 21:26	BKG	0.2900			

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-APR-2006 02:24	BKG		0.2900		
12-APR-2006 02:43	BKG		0.3700		

-- Multi-Test Full Report --

Description : quad 4b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.259471 Std Deviation : 0.053889

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 02:38	BKG		0.2400		
2-MAR-2006 03:57	BKG		0.2300		
3-MAR-2006 02:20	BKG		0.2200		
4-MAR-2006 02:28	BKG		0.2300		
4-MAR-2006 22:05	BKG		0.2300		
5-MAR-2006 22:28	BKG		0.2200		
7-MAR-2006 02:22	BKG		0.2700		
8-MAR-2006 03:03	BKG		0.2700		
9-MAR-2006 02:37	BKG		0.2800		
10-MAR-2006 01:32	BKG		0.2900		
11-MAR-2006 03:14	BKG		0.2600		
11-MAR-2006 19:23	BKG		0.2200		
12-MAR-2006 19:58	BKG		0.2300		
14-MAR-2006 03:26	BKG		0.2700		
15-MAR-2006 01:33	BKG		0.2100		

16-MAR-2006 03:14	BKG	0.2900			
17-MAR-2006 03:37	BKG	0.2500			
18-MAR-2006 04:19	BKG	0.2900			
18-MAR-2006 20:15	BKG	0.2200			
19-MAR-2006 19:38	BKG	0.2400			
21-MAR-2006 02:44	BKG	0.3100			
22-MAR-2006 01:40	BKG	0.2100			
23-MAR-2006 04:51	BKG	0.2400			
24-MAR-2006 02:43	BKG	0.2800			
25-MAR-2006 02:23	BKG	0.2500			
25-MAR-2006 20:29	BKG	0.2300			
26-MAR-2006 21:19	BKG	0.2500			
28-MAR-2006 03:49	BKG	0.2600			
29-MAR-2006 03:09	BKG	0.3100			
30-MAR-2006 02:56	BKG	0.2500			
31-MAR-2006 02:09	BKG	0.3500			
1-APR-2006 02:32	BKG	0.2500			
1-APR-2006 20:32	BKG	0.2600			
2-APR-2006 20:05	BKG	0.2400			
4-APR-2006 02:32	BKG	0.3000			
5-APR-2006 01:38	BKG	0.2700			
6-APR-2006 04:03	BKG	0.4200	In		
7-APR-2006 02:22	BKG	0.2900			
8-APR-2006 02:21	BKG	0.2700			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

8-APR-2006 21:12	BKG		0.2500		
9-APR-2006 21:26	BKG		0.2500		
11-APR-2006 02:24	BKG		0.3200		
12-APR-2006 02:43	BKG		0.3100		

-- Multi-Test Full Report --

Description : quad 4c 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.264286 Std Deviation : 0.037815

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 02:38	BKG		0.2700	
2-MAR-2006 03:57	BKG		0.3100	
3-MAR-2006 02:20	BKG		0.3100	
4-MAR-2006 02:28	BKG		0.2600	
4-MAR-2006 22:05	BKG		0.3000	
5-MAR-2006 22:28	BKG		0.2700	
7-MAR-2006 02:22	BKG		0.2500	
8-MAR-2006 03:03	BKG		0.2300	
9-MAR-2006 02:37	BKG		0.3200	
10-MAR-2006 01:32	BKG		0.2600	
11-MAR-2006 03:14	BKG		0.2400	
11-MAR-2006 19:23	BKG		0.2800	
12-MAR-2006 19:58	BKG		0.2500	
14-MAR-2006 03:26	BKG		0.2900	
15-MAR-2006 01:33	BKG		0.3100	
16-MAR-2006 03:14	BKG		0.3400	In
17-MAR-2006 03:37	BKG		0.2500	
18-MAR-2006 04:19	BKG		0.2600	
18-MAR-2006 20:15	BKG		0.2700	
19-MAR-2006 19:38	BKG		0.2600	
21-MAR-2006 02:44	BKG		0.3000	
22-MAR-2006 01:40	BKG		0.2700	
23-MAR-2006 04:51	BKG		0.2400	
24-MAR-2006 02:43	BKG		0.2600	
25-MAR-2006 02:23	BKG		0.2600	
25-MAR-2006 20:29	BKG		0.2600	
26-MAR-2006 21:19	BKG		0.2400	
28-MAR-2006 03:49	BKG		0.3100	
29-MAR-2006 03:09	BKG		0.3300	
30-MAR-2006 02:56	BKG		0.3100	
31-MAR-2006 02:09	BKG		0.2700	
1-APR-2006 02:32	BKG		0.3200	
1-APR-2006 20:32	BKG		0.2600	
2-APR-2006 20:05	BKG		0.2500	
4-APR-2006 02:32	BKG		0.3100	
5-APR-2006 01:38	BKG		0.2400	
6-APR-2006 04:03	BKG		0.3400	In

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

7-APR-2006 02:22 BKG	0.2200			
8-APR-2006 02:21 BKG	0.2500			
8-APR-2006 21:12 BKG	0.2600			
9-APR-2006 21:26 BKG	0.2900			
11-APR-2006 02:24 BKG	0.2500			
12-APR-2006 02:43 BKG	0.2900			

-- Multi-Test Full Report --

Description : quad 4d 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.266878 Std Deviation : 0.031946

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 02:38 BKG	0.2900			
2-MAR-2006 03:57 BKG	0.2400			
3-MAR-2006 02:20 BKG	0.2800			
4-MAR-2006 02:28 BKG	0.2900			
4-MAR-2006 22:05 BKG	0.2600			
5-MAR-2006 22:28 BKG	0.3100			
7-MAR-2006 02:22 BKG	0.3200			
8-MAR-2006 03:03 BKG	0.2700			
9-MAR-2006 02:37 BKG	0.2900			
10-MAR-2006 01:32 BKG	0.2900			
11-MAR-2006 03:14 BKG	0.2700			
11-MAR-2006 19:23 BKG	0.2900			
12-MAR-2006 19:58 BKG	0.2700			
14-MAR-2006 03:26 BKG	0.3200			
15-MAR-2006 01:33 BKG	0.2400			
16-MAR-2006 03:14 BKG	0.3200			
17-MAR-2006 03:37 BKG	0.2500			
18-MAR-2006 04:19 BKG	0.2300			
18-MAR-2006 20:15 BKG	0.2800			
19-MAR-2006 19:38 BKG	0.2700			
21-MAR-2006 02:44 BKG	0.2800			
22-MAR-2006 01:40 BKG	0.2900			

23-MAR-2006 04:51	BKG	0.3500	In	
24-MAR-2006 02:43	BKG	0.3000		
25-MAR-2006 02:23	BKG	0.3000		
25-MAR-2006 20:29	BKG	0.2900		
26-MAR-2006 21:19	BKG	0.3100		
28-MAR-2006 03:49	BKG	0.2700		
29-MAR-2006 03:09	BKG	0.2700		
30-MAR-2006 02:56	BKG	0.3100		
31-MAR-2006 02:09	BKG	0.3400	In	
1-APR-2006 02:32	BKG	0.2800		
1-APR-2006 20:32	BKG	0.3000		
2-APR-2006 20:05	BKG	0.2300		
4-APR-2006 02:32	BKG	0.3300		

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

5-APR-2006 01:38	BKG	0.2500			
6-APR-2006 04:03	BKG	0.3900	Ac		
7-APR-2006 02:22	BKG	0.2400			
8-APR-2006 02:21	BKG	0.2500			
8-APR-2006 21:12	BKG	0.3300			
9-APR-2006 21:26	BKG	0.2600			
11-APR-2006 02:24	BKG	0.3100			
12-APR-2006 02:43	BKG	0.4100	Ac		

4 D ← not used

Quality Assurance Report.

Generated 26-MAY-2006 11:37:07.94

QA Filename : \$DISK1:[QUAD7.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 7a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 42.000000 Upper Bound : 44.540001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 43.265854 Std Deviation : 0.424905

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:54	CHK		43.5000	
2-MAR-2006 05:05	CHK		43.3000	
3-MAR-2006 05:00	CHK		43.9000	
4-MAR-2006 05:57	CHK		43.7000	
6-MAR-2006 04:56	CHK		43.1000	
7-MAR-2006 04:52	CHK		43.1000	
8-MAR-2006 05:32	CHK		42.5000	
9-MAR-2006 05:31	CHK		42.9000	
10-MAR-2006 05:36	CHK		43.3000	
12-MAR-2006 07:37	CHK		43.0000	
13-MAR-2006 05:08	CHK		43.8000	
14-MAR-2006 04:54	CHK		42.7000	
15-MAR-2006 04:59	CHK		42.6000	
16-MAR-2006 04:48	CHK		43.3000	
17-MAR-2006 05:35	CHK		42.6000	
18-MAR-2006 07:08	CHK		43.1000	
20-MAR-2006 04:58	CHK		43.4000	
21-MAR-2006 04:55	CHK		43.5000	
22-MAR-2006 05:31	CHK		43.0000	
23-MAR-2006 05:29	CHK		43.1000	
24-MAR-2006 05:02	CHK		43.6000	

25-MAR-2006 07:08	CHK	43.5000			
27-MAR-2006 04:57	CHK	42.6000			
28-MAR-2006 04:50	CHK	43.8000			
29-MAR-2006 04:59	CHK	43.6000			
30-MAR-2006 04:58	CHK	42.9000			
31-MAR-2006 04:53	CHK	43.7000			
1-APR-2006 06:24	CHK	42.4000	In		
3-APR-2006 04:44	CHK	43.1000			
4-APR-2006 04:52	CHK	43.2000			
5-APR-2006 05:05	CHK	41.9000	Be Ac		
6-APR-2006 04:48	CHK	43.2000			
7-APR-2006 04:44	CHK	42.8000			
8-APR-2006 07:33	CHK	43.7000			
9-APR-2006 07:39	CHK	43.2000			
10-APR-2006 05:08	CHK	42.7000			
11-APR-2006 04:58	CHK	42.4000	In		
12-APR-2006 05:30	CHK	42.0000	In		

-- Multi-Test Full Report --

Description : quad 7b 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 43.400002 Upper Bound : 46.299999

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 44.839024 Std Deviation : 0.481627

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:54	CHK	45.2000			
2-MAR-2006 05:05	CHK	44.9000			
3-MAR-2006 05:00	CHK	45.6000			
4-MAR-2006 05:57	CHK	45.2000			
6-MAR-2006 04:56	CHK	44.3000			

7-MAR-2006 04:52	CHK	44.9000			
8-MAR-2006 05:32	CHK	45.2000			
9-MAR-2006 05:31	CHK	44.6000			
10-MAR-2006 05:36	CHK	45.0000			
12-MAR-2006 07:37	CHK	45.3000			
13-MAR-2006 05:08	CHK	44.4000			
14-MAR-2006 04:54	CHK	45.3000			
15-MAR-2006 04:59	CHK	44.9000			
16-MAR-2006 04:48	CHK	44.9000			
17-MAR-2006 05:35	CHK	44.5000			
18-MAR-2006 07:08	CHK	44.8000			
20-MAR-2006 04:58	CHK	44.1000			
21-MAR-2006 04:55	CHK	44.6000			
22-MAR-2006 05:31	CHK	44.6000			
23-MAR-2006 05:29	CHK	45.5000			
24-MAR-2006 05:02	CHK	44.4000			
25-MAR-2006 07:08	CHK	44.5000			
27-MAR-2006 04:57	CHK	44.6000			
28-MAR-2006 04:50	CHK	44.4000			
29-MAR-2006 04:59	CHK	45.3000			
30-MAR-2006 04:58	CHK	44.2000			
31-MAR-2006 04:53	CHK	44.5000			
1-APR-2006 06:24	CHK	45.0000			
3-APR-2006 04:44	CHK	44.0000			
4-APR-2006 04:52	CHK	44.7000			
5-APR-2006 05:05	CHK	45.0000			
6-APR-2006 04:48	CHK	44.8000			
7-APR-2006 04:44	CHK	43.4000		ln	
8-APR-2006 07:33	CHK	45.7000			
9-APR-2006 07:39	CHK	45.0000			
10-APR-2006 05:08	CHK	45.3000			
11-APR-2006 04:58	CHK	44.9000			
12-APR-2006 05:30	CHK	44.1000			

-- Multi-Test Full Report --

Description : quad 7c 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 38.619999 Upper Bound : 43.060001

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 40.844910 Std Deviation : 0.739721

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 04:54	CHK		40.0000	
2-MAR-2006 05:05	CHK		40.6000	
3-MAR-2006 05:00	CHK		39.4000	
4-MAR-2006 05:57	CHK		40.4000	
6-MAR-2006 04:56	CHK		40.0000	
7-MAR-2006 04:52	CHK		40.4000	
8-MAR-2006 05:32	CHK		39.2000	In
9-MAR-2006 05:31	CHK		40.0000	
10-MAR-2006 05:36	CHK		40.3000	
12-MAR-2006 07:37	CHK		40.3000	
13-MAR-2006 05:08	CHK		39.8000	
14-MAR-2006 04:54	CHK		40.1000	
15-MAR-2006 04:59	CHK		41.1000	
16-MAR-2006 04:48	CHK		39.8000	
17-MAR-2006 05:35	CHK		40.5000	
18-MAR-2006 07:08	CHK		39.2000	In
20-MAR-2006 04:58	CHK		40.0000	
21-MAR-2006 04:55	CHK		40.8000	
22-MAR-2006 05:31	CHK		40.2000	
23-MAR-2006 05:29	CHK		40.8000	
24-MAR-2006 05:02	CHK		40.0000	
25-MAR-2006 07:08	CHK		41.0000	
27-MAR-2006 04:57	CHK		40.2000	
28-MAR-2006 04:50	CHK		40.8000	
29-MAR-2006 04:59	CHK		41.4000	
30-MAR-2006 04:58	CHK		39.9000	
31-MAR-2006 04:53	CHK		40.9000	
1-APR-2006 06:24	CHK		40.5000	
3-APR-2006 04:44	CHK		38.4000	Be Ac
4-APR-2006 04:52	CHK		39.5000	
5-APR-2006 05:05	CHK		39.8000	
6-APR-2006 04:48	CHK		39.4000	

7-APR-2006 04:44	CHK	38.6000	Be Ac	
8-APR-2006 07:33	CHK	39.7000		
9-APR-2006 07:39	CHK	39.8000		
10-APR-2006 05:08	CHK	39.8000		
11-APR-2006 04:58	CHK	40.0000		
12-APR-2006 05:30	CHK	39.6000		

-- Multi-Test Full Report --

Description : quad 7d 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 17.680000 Upper Bound : 52.099998

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 34.890854 Std Deviation : 5.735348

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 04:54	CHK	30.8000			
2-MAR-2006 05:05	CHK	31.7000			
3-MAR-2006 05:00	CHK	42.1000			
4-MAR-2006 05:57	CHK	30.5000			
6-MAR-2006 04:56	CHK	31.4000			
7-MAR-2006 04:52	CHK	30.3000			
8-MAR-2006 05:32	CHK	31.4000			
9-MAR-2006 05:31	CHK	29.8000			
10-MAR-2006 05:36	CHK	31.2000			
12-MAR-2006 07:37	CHK	43.5000			
13-MAR-2006 05:08	CHK	30.0000			
14-MAR-2006 04:54	CHK	29.9000			
15-MAR-2006 04:59	CHK	30.2000			
16-MAR-2006 04:48	CHK	31.3000			
17-MAR-2006 05:35	CHK	31.2000			
18-MAR-2006 07:08	CHK	29.6000			

20-MAR-2006 04:58	CHK	31.2000			
21-MAR-2006 04:55	CHK	31.4000			
22-MAR-2006 05:31	CHK	30.6000			
23-MAR-2006 05:29	CHK	29.7000			
24-MAR-2006 05:02	CHK	31.8000			
25-MAR-2006 07:08	CHK	32.2000			
27-MAR-2006 04:57	CHK	30.4000			
28-MAR-2006 04:50	CHK	37.0000			
29-MAR-2006 04:59	CHK	36.8000			
30-MAR-2006 04:58	CHK	31.8000			
31-MAR-2006 04:53	CHK	33.0000			
1-APR-2006 06:24	CHK	43.6000			
3-APR-2006 04:44	CHK	43.3000			
4-APR-2006 04:52	CHK	30.7000			
5-APR-2006 05:05	CHK	31.4000			
6-APR-2006 04:48	CHK	31.1000			
7-APR-2006 04:44	CHK	43.4000			
8-APR-2006 07:33	CHK	43.4000			
9-APR-2006 07:39	CHK	43.9000			
10-APR-2006 05:08	CHK	32.3000			
11-APR-2006 04:58	CHK	31.8000			
12-APR-2006 05:30	CHK	28.5000			

Quality Assurance Report.

Generated 26-MAY-2006 11:37:09.27

QA Filename : \$DISK1:[QUAD7.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 7a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.734474 Std Deviation : 0.058613

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:35	BKG		0.7900			
------------------	-----	--	--------	--	--	--

2-MAR-2006 03:59	BKG		0.7200			
------------------	-----	--	--------	--	--	--

3-MAR-2006 02:25 BKG	0.7000			
4-MAR-2006 02:29 BKG	0.7800			
4-MAR-2006 22:06 BKG	0.8000			
5-MAR-2006 22:29 BKG	0.7400			
7-MAR-2006 03:27 BKG	0.7000			
8-MAR-2006 03:03 BKG	0.7700			
9-MAR-2006 03:18 BKG	0.7600			
10-MAR-2006 01:32 BKG	0.7400			
11-MAR-2006 03:14 BKG	0.8100			
11-MAR-2006 19:24 BKG	0.7400			
12-MAR-2006 19:59 BKG	0.7700			
14-MAR-2006 03:26 BKG	0.7500			
15-MAR-2006 01:38 BKG	0.6000	[In]		
16-MAR-2006 03:10 BKG	0.7200			
17-MAR-2006 01:12 BKG	0.6500			
18-MAR-2006 04:20 BKG	0.7400			
18-MAR-2006 20:15 BKG	0.8200			
19-MAR-2006 19:38 BKG	0.7900			
21-MAR-2006 02:49 BKG	0.8400			
22-MAR-2006 01:41 BKG	0.7400			
23-MAR-2006 02:31 BKG	0.6800			
24-MAR-2006 02:49 BKG	0.7200			
25-MAR-2006 02:19 BKG	0.7600			
25-MAR-2006 20:30 BKG	0.8500			
26-MAR-2006 21:20 BKG	0.6500			
28-MAR-2006 03:49 BKG	0.8300			
29-MAR-2006 03:05 BKG	0.8000			
30-MAR-2006 02:56 BKG	0.7500			
31-MAR-2006 02:09 BKG	0.7600			
1-APR-2006 02:33 BKG	0.8000			
1-APR-2006 20:33 BKG	0.7700			
2-APR-2006 20:06 BKG	0.6800			
4-APR-2006 02:32 BKG	0.7700			
5-APR-2006 01:39 BKG	0.7200			
6-APR-2006 03:59 BKG	0.7400			
7-APR-2006 02:22 BKG	0.8000			
8-APR-2006 04:17 BKG	0.6600			
8-APR-2006 21:12 BKG	0.7500			
9-APR-2006 21:26 BKG	0.7600			

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

11-APR-2006 02:10	BKG	0.7400			
12-APR-2006 02:44	BKG	0.7600			

-- Multi-Test Full Report --

Description : quad 7b 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.723632 Std Deviation : 0.057219

Measurement Time	Sample ID	Sample Analyst	Value	LU	SD	UD	BS	Rej
------------------	-----------	----------------	-------	----	----	----	----	-----

1-MAR-2006 02:35	BKG		0.8000					
2-MAR-2006 03:59	BKG		0.7200					
3-MAR-2006 02:25	BKG		0.7400					
4-MAR-2006 02:29	BKG		0.8000					
4-MAR-2006 22:06	BKG		0.7300					
5-MAR-2006 22:29	BKG		0.7400					
7-MAR-2006 03:27	BKG		0.7800					
8-MAR-2006 03:03	BKG		0.7400					
9-MAR-2006 03:18	BKG		0.7300					
10-MAR-2006 01:32	BKG		0.8000					
11-MAR-2006 03:14	BKG		0.7900					
11-MAR-2006 19:24	BKG		0.7400					
12-MAR-2006 19:59	BKG		0.7300					
14-MAR-2006 03:26	BKG		0.7200					
15-MAR-2006 01:38	BKG		0.7000					
16-MAR-2006 03:10	BKG		0.7400					
17-MAR-2006 01:12	BKG		0.6500					
18-MAR-2006 04:20	BKG		0.6800					
18-MAR-2006 20:15	BKG		0.7300					
19-MAR-2006 19:38	BKG		0.7100					
21-MAR-2006 02:49	BKG		0.8000					
22-MAR-2006 01:41	BKG		0.7000					
23-MAR-2006 02:31	BKG		0.7200					
24-MAR-2006 02:49	BKG		0.8000					
25-MAR-2006 02:19	BKG		0.6400					
25-MAR-2006 20:30	BKG		0.8100					
26-MAR-2006 21:20	BKG		0.6500					

28-MAR-2006 03:49	BKG	0.8000			
29-MAR-2006 03:05	BKG	0.8000			
30-MAR-2006 02:56	BKG	0.7500			
31-MAR-2006 02:09	BKG	0.6800			
1-APR-2006 02:33	BKG	0.7500			
1-APR-2006 20:33	BKG	0.7600			
2-APR-2006 20:06	BKG	0.7000			
4-APR-2006 02:32	BKG	0.7900			
5-APR-2006 01:39	BKG	0.7600			
6-APR-2006 03:59	BKG	0.7800			
7-APR-2006 02:22	BKG	0.7000			
8-APR-2006 04:17	BKG	0.7300			

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
8-APR-2006 21:12	BKG		0.7600		
9-APR-2006 21:26	BKG		0.8300		
11-APR-2006 02:10	BKG		0.7300		
12-APR-2006 02:44	BKG		0.7300		

-- Multi-Test Full Report --

Description : quad 7c 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.737188 Std Deviation : 0.120272

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 02:35	BKG		0.7500		
2-MAR-2006 03:59	BKG		0.6900		
3-MAR-2006 02:25	BKG		0.6600		
4-MAR-2006 02:29	BKG		0.7100		
4-MAR-2006 22:06	BKG		0.7600		
5-MAR-2006 22:29	BKG		0.6800		
7-MAR-2006 03:27	BKG		0.7700		
8-MAR-2006 03:03	BKG		0.7600		
9-MAR-2006 03:18	BKG		0.7800		

10-MAR-2006 01:32 BKG	0.7100			
11-MAR-2006 03:14 BKG	0.8100			
11-MAR-2006 19:24 BKG	0.7400			
12-MAR-2006 19:59 BKG	0.7800			
14-MAR-2006 03:26 BKG	0.7200			
15-MAR-2006 01:38 BKG	0.7600			
16-MAR-2006 03:10 BKG	0.7700			
17-MAR-2006 01:12 BKG	0.6500			
18-MAR-2006 04:20 BKG	0.7500			
18-MAR-2006 20:15 BKG	0.7600			
19-MAR-2006 19:38 BKG	0.7100			
21-MAR-2006 02:49 BKG	0.8400			
22-MAR-2006 01:41 BKG	0.7800			
23-MAR-2006 02:31 BKG	0.7200			
24-MAR-2006 02:49 BKG	0.6900			
25-MAR-2006 02:19 BKG	0.8100			
25-MAR-2006 20:30 BKG	0.7000			
26-MAR-2006 21:20 BKG	0.8200			
28-MAR-2006 03:49 BKG	0.7700			
29-MAR-2006 03:05 BKG	0.8500			
30-MAR-2006 02:56 BKG	0.6100			
31-MAR-2006 02:09 BKG	0.8400			
1-APR-2006 02:33 BKG	0.8100			
1-APR-2006 20:33 BKG	0.7900			
2-APR-2006 20:06 BKG	0.7800			
4-APR-2006 02:32 BKG	0.8300			
5-APR-2006 01:39 BKG	0.8600			
6-APR-2006 03:59 BKG	0.7900			

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

7-APR-2006 02:22 BKG	0.8000			
8-APR-2006 04:17 BKG	0.8300			
8-APR-2006 21:12 BKG	0.8000			
9-APR-2006 21:26 BKG	0.7800			
11-APR-2006 02:10 BKG	0.8100			
12-APR-2006 02:44 BKG	0.7900			

-- Multi-Test Full Report --

Description : quad 7d 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.616895 Std Deviation : 0.086919

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 02:35	BKG		0.6400		
2-MAR-2006 03:59	BKG		0.5000		
3-MAR-2006 02:25	BKG		0.5500		
4-MAR-2006 02:29	BKG		0.4900		
4-MAR-2006 22:06	BKG		0.4200	In	
5-MAR-2006 22:29	BKG		0.4900		
7-MAR-2006 03:27	BKG		0.5100		
8-MAR-2006 03:03	BKG		0.7800		
9-MAR-2006 03:18	BKG		0.6100		
10-MAR-2006 01:32	BKG		0.7400		
11-MAR-2006 03:14	BKG		0.7400		
11-MAR-2006 19:24	BKG		0.7200		
12-MAR-2006 19:59	BKG		0.6500		
14-MAR-2006 03:26	BKG		0.7200		
15-MAR-2006 01:38	BKG		0.5400		
16-MAR-2006 03:10	BKG		0.4200	In	
17-MAR-2006 01:12	BKG		0.4200	In	
18-MAR-2006 04:20	BKG		0.4400	In	
18-MAR-2006 20:15	BKG		0.4700		
19-MAR-2006 19:38	BKG		0.5100		
21-MAR-2006 02:49	BKG		0.5000		
22-MAR-2006 01:41	BKG		0.4500		
23-MAR-2006 02:31	BKG		0.5200		
24-MAR-2006 02:49	BKG		0.4500		
25-MAR-2006 02:19	BKG		0.5000		
25-MAR-2006 20:30	BKG		0.5100		
26-MAR-2006 21:20	BKG		0.6800		
28-MAR-2006 03:49	BKG		0.6700		
29-MAR-2006 03:05	BKG		0.5500		
30-MAR-2006 02:56	BKG		0.5500		
31-MAR-2006 02:09	BKG		0.7300		
1-APR-2006 02:33	BKG		0.6700		
1-APR-2006 20:33	BKG		0.6800		
2-APR-2006 20:06	BKG		0.6600		

4-APR-2006 02:32 BKG 0.5800 | | |
Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
5-APR-2006 01:39	BKG		0.5300		
6-APR-2006 03:59	BKG		0.5000		
7-APR-2006 02:22	BKG		0.5900		
8-APR-2006 04:17	BKG		0.7400		
8-APR-2006 21:12	BKG		0.4800		
9-APR-2006 21:26	BKG		0.4800		
11-APR-2006 02:10	BKG		0.4700		
12-APR-2006 02:44	BKG		0.6800		

URANIUM ISOTOPIC SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060317; RUSIO Ulso by ALP
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

First Level Review

Pam Anderson

Date 4-14-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6060317

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sherry A. Adams Date: 4-14-05

STL RICHLAND

3/30/2006 6:07:50 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

7Y Uiso PrpRC5016/5086, SepRC5067(5039)

SR Uranium-234,235,238 by Alpha Spec

Pipet #: _____

Report Due: 03/31/2006

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech: 4-13-06 mlf

Batch: 6060317 FILTER

pCi/sample

PM, Quote: EJ , 63174

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AG J6B270158-1-SAMP 02/05/2006 06:00	0.833sa	503.56sa	37.57g,in	0.0621g	UITC15325 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
2 HX81Q-1-AG J6B270158-2-SAMP 02/05/2006 06:35	0.833sa	501.73sa	37.51g,in	0.0623g	UITC15326 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
3 HX81R-1-AG J6B270158-3-SAMP 02/05/2006 07:15	0.833sa	500.94sa	37.56g,in	0.0625g	UITC15327 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
4 HX81T-1-AG J6B270158-4-SAMP 02/05/2006 07:45	0.833sa	508.67sa	37.54g,in	0.0615g	UITC15328 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
5 HX81V-1-AG J6B270158-5-SAMP 02/05/2006 08:15	0.833sa	501.14sa	37.54g,in	0.0624g	UITC15329 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
6 HX81W-1-AG J6B270158-6-SAMP 02/05/2006 08:40	0.833sa	500.55sa	37.57g,in	0.0625g	UITC15330 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
7 HX81X-1-AG J6B270158-7-SAMP 02/05/2006 06:10	0.833sa	500.96sa	37.51g,in	0.0624g	UITC15331 03/20/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7
Prep_SamplePrep v4.8.20

STL RICHLAND

3/30/2006 6:07:51 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

7Y Uiso PrpRC5016/5086, SepRC5067(5039)

SR Uranium-234,235,238 by Alpha Spec

Pipet #: _____

Report Due: 03/31/2006

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Batch: 6060317 FILTER

pCi/sampl

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 HX811-1-AG J6B270158-8-SAMP 02/05/2006 06:15	0.833sa	501.81sa	37.57g,in	0.0624g	UITC15332 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
9 HX812-1-AG J6B270158-9-SAMP 02/05/2006 06:05	0.833sa	507.36sa	37.54g,in	0.0616g	UITC15333 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
10 HX813-1-AG J6B270158-10-SAMP 02/05/2006 06:40	0.833sa	500.90sa	37.60g,in	0.0625g	UITC15334 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
11 HX814-1-AG J6B270158-11-SAMP 02/05/2006 07:20	0.833sa	502.44sa	37.50g,in	0.0622g	UITC15335 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
12 HX815-1-AG J6B270158-12-SAMP 02/05/2006 07:50	0.833sa	501.00sa	37.51g,in	0.0624g	UITC15336 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
13 HX816-1-AG J6B270158-13-SAMP 02/05/2006 08:20	0.833sa	505.04sa	37.55g,in	0.0619g	UITC15337 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
14 HX817-1-AG J6B270158-14-SAMP 02/05/2006 08:45	0.833sa	501.67sa	37.53g,in	0.0623g	UITC15338 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

Prep_SamplePrep v4.8.20

STL RICHLAND

3/30/2006 6:07:51 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

7Y Uiso PrpRC5016/5086, SepRC5067(5039)

SR Uranium-234,235,238 by Alpha Spec

Pipet #: _____

Report Due: 03/31/2006

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Batch: 6060317 FILTER

pCi/sampl

PM, Quote: EJ , 63174

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15HX818-1-AG J6B270158-15-SAMP 02/05/2006 06:45	0.833sa	501.09sa	37.64g,in	0.0626g	UITS15339 03/30/06,pd 12/16/02,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
16H0EHT-1-AA-B J6C010000-317-BLK 02/05/2006 06:00			1.00sa,in	1.00sa	UITS15340 03/30/06,pd 12/16/02,r					
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
17H0EHT-1-AC-C J6C010000-317-LCS 02/05/2006 06:00			1.00sa,in	1.00sa	UISF0442 03/16/06,pd 03/22/05,r					
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81N1AG-SAMP Constituent List:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:
H0EHT1AA-BLK:											
U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:
H0EHT1AC-LCS:											
U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Uranium	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20

HX81N1AG-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H0EHT1AA-BLK:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 17

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.20

4/14/2006 11:11:44 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/14/2005, 4/19/2006, Batch: '6060317', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060317				
AC	CalcC	HansenM	3/20/2006 4:07:14 PM	
SC		wagarr	IsBatched 3/1/2006 4:16:24 PM	ICOC_RADCALC v4.8.18
SC		HansenM	InPrep2 3/20/2006 4:07:14 PM	RICH-RC-5016 REVISION 5
SC		HansenM	Prep2C 3/31/2006 9:19:20 AM	RICH-RC-5016 REVISION 5
SC		ManisD	Sep2C 4/12/2006 4:24:25 PM	RICH-RC-5067 REV 6
SC		FABREM	InSep2 4/12/2006 5:51:27 PM	RICH-RC-5039 REV 4
SC		FABREM	Sep2C 4/13/2006 11:57:38 AM	RICH-RC-5039 REV 4
SC		BlackCL	InCnt1 4/13/2006 12:12:37 PM	RICH-RD-0008 REVISION 4
SC		DAWKINSO	CalcC 4/13/2006 9:50:03 PM	RICH-RD-0008 REVISION 4
AC		HansenM	3/31/2006 9:19:20	
AC		ManisD	4/12/2006 4:24:25 PM	
AC		FABREM	4/12/2006 5:51:27 PM	
AC		FABREM	4/13/2006 11:57:38	
AC		BlackCL	4/13/2006 12:12:37	
AC		DAWKINSO	4/13/2006 9:50:03 PM	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/14/2006 11:11:43 AM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert moa	Sample Date Units	Expected Yield	Volumes		
31025	9HX81110		J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM				
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.9486E-03	1.059E+00	1.059E+00	5.274E+00	PCI/SA	1.0	1.0E+0	2.082E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00	5.298E+00	PCI/SA	1.0	1.0E+0	3.405E-2
RA-226	BXTE	0	4/10/2006 2:46:00 PM	2.2347E-01	9.499E-02	9.757E-02	2.773E-01	PCI/SA	1.058	8.33E-1	2.493E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.5971E+00	4.447E-01	4.617E-01	1.772E+00	PCI/SA	0.938	1.0E+0	2.493E-1
U-234	7YSR	0	4/13/2006 7:01:11 PM	-4.2672E-02	3.017E-02	3.053E-02	6.027E-01	PCI/SA	0.922	1.0E+0	3.237E-2
U-235	7YSR	0	4/13/2006 7:01:11 PM	-2.1336E-02	2.134E-02	2.146E-02	5.108E-01	PCI/SA	0.922	1.0E+0	3.237E-2
U-238	7YSR	0	4/13/2006 7:01:11 PM	-4.2672E-02	3.017E-02	3.053E-02	6.027E-01	PCI/SA	0.922	1.0E+0	3.237E-2
31025	9HX81210		J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM				
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.0284E+01	2.198E+00	2.444E+00	5.179E+00	PCI/SA	1.0	1.0E+0	2.07E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00	5.209E+00	PCI/SA	1.0	1.0E+0	3.295E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	-2.3959E-01	1.359E-01	1.382E-01	6.036E-01	PCI/SA	0.937	8.33E-1	2.48E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	4.4971E+00	8.231E-01	8.706E-01	2.832E+00	PCI/SA	0.572	1.0E+0	2.48E-1
U-234	7YSR	0	4/13/2006 7:01:25 PM	3.7594E-01	1.989E-01	2.029E-01	4.74E-01	PCI/SA	1.108	1.0E+0	3.163E-2
U-235	7YSR	0	4/13/2006 7:01:25 PM	0.0E+00	0.0E+00	1.212E-01	2.681E-01	PCI/SA	1.108	1.0E+0	3.163E-2
U-238	7YSR	0	4/13/2006 7:01:25 PM	7.9127E-02	1.009E-01	1.013E-01	4.74E-01	PCI/SA	1.108	1.0E+0	3.163E-2
31025	9HX81310		J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM				
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	4.1731E+00	1.552E+00	1.612E+00	4.862E+00	PCI/SA	1.0	1.0E+0	2.08E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00	5.341E+00	PCI/SA	1.0	1.0E+0	3.367E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.6862E-01	1.056E-01	1.092E-01	3.078E-01	PCI/SA	0.985	8.33E-1	2.505E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8241E+00	4.46E-01	4.643E-01	1.638E+00	PCI/SA	0.882	1.0E+0	2.505E-1
U-234	7YSR	0	4/13/2006 7:01:39 PM	-1.8302E-02	1.83E-02	1.841E-02	4.378E-01	PCI/SA	0.974	1.0E+0	3.253E-2
U-235	7YSR	0	4/13/2006 7:01:39 PM	-3.6604E-02	2.588E-02	2.618E-02	5.166E-01	PCI/SA	0.974	1.0E+0	3.253E-2
U-238	7YSR	0	4/13/2006 7:01:39 PM	-1.8302E-02	1.83E-02	1.841E-02	4.378E-01	PCI/SA	0.974	1.0E+0	3.253E-2
31025	9HX81410		J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM				
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	6.8426E+00	1.932E+00	2.058E+00	5.45E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00	4.713E+00	PCI/SA	1.0	1.0E+0	3.318E-2
RA-226	BXTE	0	4/10/2006 3:20:00 PM	3.0838E-01	1.419E-01	1.458E-01	4.564E-01	PCI/SA	1.111	8.33E-1	2.498E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.2626E+00	4.868E-01	5.105E-01	1.737E+00	PCI/SA	0.811	1.0E+0	2.498E-1
U-234	7YSR	0	4/13/2006 7:01:45 PM	1.9364E-01	1.369E-01	1.385E-01	2.624E-01	PCI/SA	1.011	1.0E+0	3.217E-2
U-235	7YSR	0	4/13/2006 7:01:45 PM	-1.9371E-02	1.937E-02	1.948E-02	4.638E-01	PCI/SA	1.011	1.0E+0	3.217E-2
U-238	7YSR	0	4/13/2006 7:01:45 PM	9.6821E-02	9.682E-02	9.739E-02	2.624E-01	PCI/SA	1.011	1.0E+0	3.217E-2
31025	9HX81510		J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM				
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.6852E+01	2.628E+00	3.144E+00	5.103E+00	PCI/SA	1.0	1.0E+0	2.093E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00	5.06E+00	PCI/SA	1.0	1.0E+0	3.357E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	5.6304E-01	1.765E-01	1.864E-01	5.117E-01	PCI/SA	1.039	8.33E-1	2.515E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	1.8457E+00	4.531E-01	4.739E-01	1.73E+00	PCI/SA	0.824	1.0E+0	2.515E-1
U-234	7YSR	0	4/13/2006 7:02:17 PM	1.2301E+00	3.478E-01	3.722E-01	4.81E-01	PCI/SA	1.102	1.0E+0	3.237E-2
U-235	7YSR	0	4/13/2006 7:02:17 PM	6.5513E-02	9.763E-02	9.788E-02	5.15E-01	PCI/SA	1.102	1.0E+0	3.237E-2
U-238	7YSR	0	4/13/2006 7:02:17 PM	8.5217E-01	2.894E-01	3.036E-01	4.407E-01	PCI/SA	1.102	1.0E+0	3.237E-2
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM				
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	9.3614E+00	2.111E+00	2.319E+00	4.967E+00	PCI/SA	1.0	1.0E+0	2.09E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00	5.184E+00	PCI/SA	1.0	1.0E+0	3.3E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.0856E+00	2.48E-01	3.317E-01	4.022E-01	PCI/SA	1.141	8.33E-1	2.483E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.1678E+01	1.033E+00	1.637E+00	1.489E+00	PCI/SA	1.008	1.0E+0	2.483E-1
U-234	7YSR	0	4/13/2006 7:02:23 PM	8.281E-01	3.088E-01	3.217E-01	6.158E-01	PCI/SA	0.913	1.0E+0	3.193E-2
U-235	7YSR	0	4/13/2006 7:02:23 PM	0.0E+00	0.0E+00	1.335E-01	2.953E-01	PCI/SA	0.913	1.0E+0	3.193E-2
U-238	7YSR	0	4/13/2006 7:02:23 PM	7.453E-01	2.886E-01	2.998E-01	4.98E-01	PCI/SA	0.913	1.0E+0	3.193E-2
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM				
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	1.0892E+01	2.232E+00	2.504E+00	5.119E+00	PCI/SA	1.0	1.0E+0	2.095E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00	5.291E+00	PCI/SA	1.0	1.0E+0	3.384E-2
RA-226	BXTE	0	4/10/2006 3:19:03 PM	1.1391E-01	1.07E-01	1.077E-01	3.869E-01	PCI/SA	0.96	8.33E-1	2.493E-1

6060317, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
 **Diff RptDb | Qlms => .

SDG or Batch	Rpt Db Id	Lot Sample	Client Id	Matrix	Received Date	Sample Date	Yield	Volumes			
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	moa	Units	Expected	Yield	Volumes
RA-228	BXTF	0	4/12/2006 6:43:34 AM	-3.7761E-02	4.38E-01	4.38E-01	2.246E+00	PCI/SA	0.686	1.0E+0	2.493E-1
U-234	7YSR	0	4/13/2006 7:02:35 PM	2.001E+00	4.805E-01	5.279E-01	6.046E-01	PCI/SA	0.918	1.0E+0	3.232E-2
U-235	7YSR	0	4/13/2006 7:02:35 PM	-9.0613E-03	9.061E-03	9.115E-03	4.556E-01	PCI/SA	0.918	1.0E+0	3.232E-2
U-238	7YSR	0	4/13/2006 7:02:35 PM	7.6937E-02	1.146E-01	1.149E-01	6.046E-01	PCI/SA	0.918	1.0E+0	3.232E-2
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM				
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	-8.6245E-01	7.724E-01	7.776E-01	4.857E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00	5.36E+00	PCI/SA	1.0	1.0E+0	3.447E-2
RA-226	BXTE	0	4/10/2006 3:14:00 PM	1.1151E-01	8.896E-02	8.966E-02	3.131E-01	PCI/SA	1.046	8.33E-1	2.509E-1
RA-228	BXTF	0	4/12/2006 6:43:34 AM	6.1757E-01	3.751E-01	3.758E-01	1.662E+00	PCI/SA	0.937	1.0E+0	2.509E-1
U-234	7YSR	0	4/13/2006 7:02:45 PM	-8.9073E-03	8.907E-03	8.96E-03	4.484E-01	PCI/SA	0.928	1.0E+0	3.257E-2
U-235	7YSR	0	4/13/2006 7:02:45 PM	0.0E+00	0.0E+00	1.365E-01	3.019E-01	PCI/SA	0.928	1.0E+0	3.257E-2
U-238	7YSR	0	4/13/2006 7:02:45 PM	-8.9073E-03	8.907E-03	8.96E-03	4.484E-01	PCI/SA	0.928	1.0E+0	3.257E-2
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM				
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.1099E+00	1.514E+00	1.53E+00	5.957E+00	PCI/SA	1.0	1.0E+0	2.091E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00	5.408E+00	PCI/SA	1.0	1.0E+0	3.278E-2
RA-226	BXTE	0	4/10/2006 2:53:00 PM	2.6364E-01	1.546E-01	1.569E-01	5.224E-01	PCI/SA	0.993	8.33E-1	2.511E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	7.5195E-01	5.665E-01	5.665E-01	2.508E+00	PCI/SA	0.875	1.0E+0	2.511E-1
U-234	7YSR	0	4/13/2006 6:58:37 PM	7.915E-02	1.009E-01	1.013E-01	4.741E-01	PCI/SA	1.048	1.0E+0	3.215E-2
U-235	7YSR	0	4/13/2006 6:58:37 PM	-1.9813E-02	1.981E-02	1.993E-02	4.741E-01	PCI/SA	1.048	1.0E+0	3.215E-2
U-238	7YSR	0	4/13/2006 6:58:37 PM	0.0E+00	0.0E+00	1.212E-01	2.682E-01	PCI/SA	1.048	1.0E+0	3.215E-2
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM				
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.9199E+00	1.605E+00	1.632E+00	5.973E+00	PCI/SA	1.0	1.0E+0	2.082E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00	5.034E+00	PCI/SA	1.0	1.0E+0	3.315E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	-2.2718E-01	1.371E-01	1.391E-01	6.167E-01	PCI/SA	0.912	8.33E-1	2.502E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	1.6354E+00	6.613E-01	6.697E-01	2.815E+00	PCI/SA	0.772	1.0E+0	2.502E-1
U-234	7YSR	0	4/13/2006 6:59:14 PM	3.799E-01	2.132E-01	2.171E-01	5.965E-01	PCI/SA	0.946	1.0E+0	3.228E-2
U-235	7YSR	0	4/13/2006 6:59:14 PM	0.0E+00	0.0E+00	1.293E-01	2.86E-01	PCI/SA	0.946	1.0E+0	3.228E-2
U-238	7YSR	0	4/13/2006 6:59:14 PM	1.6882E-01	1.522E-01	1.533E-01	5.965E-01	PCI/SA	0.946	1.0E+0	3.228E-2
31025	9HX81R10		J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM				
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	4.8606E+00	1.709E+00	1.78E+00	5.252E+00	PCI/SA	1.0	1.0E+0	2.087E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00	5.53E+00	PCI/SA	1.0	1.0E+0	3.319E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	1.0827E-01	8.15E-02	8.232E-02	2.838E-01	PCI/SA	1.151	8.33E-1	2.508E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	-4.3617E-01	4.783E-01	4.783E-01	2.347E+00	PCI/SA	1.014	1.0E+0	2.508E-1
U-234	7YSR	0	4/13/2006 6:59:20 PM	-4.8988E-02	1.384E-01	1.385E-01	1.005E+00	PCI/SA	0.783	1.0E+0	3.246E-2
U-235	7YSR	0	4/13/2006 6:59:20 PM	4.8923E-02	1.295E-01	1.296E-01	7.724E-01	PCI/SA	0.783	1.0E+0	3.246E-2
U-238	7YSR	0	4/13/2006 6:59:20 PM	-9.7911E-02	4.896E-02	5.012E-02	8.405E-01	PCI/SA	0.783	1.0E+0	3.246E-2
31025	9HX81T10		J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM				
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.6327E+00	2.24E+00	2.454E+00	5.858E+00	PCI/SA	1.0	1.0E+0	2.052E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00	5.406E+00	PCI/SA	1.0	1.0E+0	3.204E-2
RA-226	BXTE	0	4/10/2006 2:50:01 PM	2.633E-01	2.287E-01	2.305E-01	8.009E-01	PCI/SA	0.98	8.33E-1	2.462E-1
RA-228	BXTF	0	4/12/2006 6:42:05 AM	4.913E-02	4.822E-01	4.822E-01	2.32E+00	PCI/SA	0.843	1.0E+0	2.463E-1
U-234	7YSR	0	4/13/2006 6:59:32 PM	3.773E-01	2.405E-01	2.44E-01	8.1E-01	PCI/SA	0.819	1.0E+0	3.148E-2
U-235	7YSR	0	4/13/2006 6:59:32 PM	-4.717E-02	3.335E-02	3.375E-02	6.663E-01	PCI/SA	0.819	1.0E+0	3.148E-2
U-238	7YSR	0	4/13/2006 6:59:32 PM	4.7162E-01	2.689E-01	2.738E-01	8.679E-01	PCI/SA	0.819	1.0E+0	3.148E-2
31025	9HX81V10		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM				
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.0898E+00	2.055E+00	2.261E+00	4.93E+00	PCI/SA	1.0	1.0E+0	2.086E-2
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.6437E+01	1.736E+00	2.071E+00	5.472E+00	PCI/SA	1.0	1.0E+0	3.311E-2
RA-226	BXTE	0	4/10/2006 2:50:03 PM	1.4068E-01	1.354E-01	1.363E-01	4.886E-01	PCI/SA	1.081	8.33E-1	2.515E-1
RA-228	BXTF	0	4/12/2006 6:42:05 AM	1.2728E+00	4.537E-01	4.683E-01	1.95E+00	PCI/SA	0.971	1.0E+0	2.515E-1
U-234	7YSR	0	4/13/2006 6:59:45 PM	2.2995E-02	1.24E-01	1.24E-01	7.906E-01	PCI/SA	0.8	1.0E+0	3.24E-2
U-235	7YSR	0	4/13/2006 6:59:45 PM	1.1509E-01	1.151E-01	1.158E-01	3.119E-01	PCI/SA	0.8	1.0E+0	3.24E-2
U-238	7YSR	0	4/13/2006 6:59:45 PM	1.1503E-01	2.122E-01	2.126E-01	1.069E+00	PCI/SA	0.8	1.0E+0	3.24E-2
31025	9HX81W10		J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM				
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	6.5328E+00	1.979E+00	2.091E+00	5.942E+00	PCI/SA	1.0	1.0E+0	2.095E-2

6060317, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date			
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	Wgtg	Units	Expected Yield
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00	5.064E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:51:01 PM	2.3557E+00	2.987E-01	3.921E-01	7.098E-01	PCI/SA	0.934
RA-228	BXTF	0	4/12/2006 6:42:05 AM	1.8877E+01	1.088E+00	1.556E+00	2.545E+00	PCI/SA	0.823
U-234	7YSR	0	4/13/2006 7:00:00 PM	0.0E+00	0.0E+00	1.46E-01	3.23E-01	PCI/SA	0.831
U-235	7YSR	0	4/13/2006 7:00:00 PM	0.0E+00	0.0E+00	1.46E-01	3.23E-01	PCI/SA	0.831
U-238	7YSR	0	4/13/2006 7:00:00 PM	9.5343E-02	1.216E-01	1.22E-01	5.71E-01	PCI/SA	0.831
31025	9HX81X10		J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	2.9152E+00	1.602E+00	1.63E+00	5.964E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00	5.916E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:00 PM	-1.184E-01	1.327E-01	1.332E-01	5.743E-01	PCI/SA	1.019
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8376E+00	4.353E-01	4.603E-01	1.647E+00	PCI/SA	0.913
U-234	7YSR	0	4/13/2006 7:00:54 PM	0.0E+00	0.0E+00	1.213E-01	2.683E-01	PCI/SA	0.934
U-235	7YSR	0	4/13/2006 7:00:54 PM	0.0E+00	0.0E+00	1.213E-01	2.683E-01	PCI/SA	0.934
U-238	7YSR	0	4/13/2006 7:00:54 PM	-1.9803E-02	1.98E-02	1.992E-02	4.742E-01	PCI/SA	0.934
31025	H0EHT1AB		J6C010000317	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
U-234	7YSR	0	4/13/2006 7:02:52 PM	0.0E+00	0.0E+00	8.248E-03	1.825E-02	PCI/SA	0.982
U-235	7YSR	0	4/13/2006 7:02:52 PM	-2.6887E-03	1.901E-03	1.923E-03	3.804E-02	PCI/SA	0.982
U-238	7YSR	0	4/13/2006 7:02:52 PM	0.0E+00	0.0E+00	8.248E-03	1.825E-02	PCI/SA	0.982
31025	H0EHT1CS		J6C010000317	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
U-234	7YSR	0	4/13/2006 7:02:57 PM	1.1039E+00	1.017E-01	1.582E-01	5.764E-02	PCI/SA	1.0006E+00
U-238	7YSR	0	4/13/2006 7:02:57 PM	8.5669E-01	8.94E-02	1.297E-01	3.75E-02	PCI/SA	1.0479E+00

6060317, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 50 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	MLcC	MDC	QC	Yield	RYld
Ulso by ALP			Richland Standard Alplso Wo Blk Subt.											
Calc	SR	AIR	HX81N1AG	U-234	7.91E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.74E-01	CRDC <i>mt.</i> 105%		
Calc	SR	AIR	HX81N1AG	U-235	-1.98E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.74E-01	105%		
Calc	SR	AIR	HX81N1AG	U-238	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01	105%		
Calc	SR	AIR	HX81Q1AG	U-234	3.80E-01	(2.17E-01)		PCI/SA	R	1.55E-01	5.97E-01	95%		
Calc	SR	AIR	HX81Q1AG	U-235	0.00E+00	(1.29E-01)	U4	PCI/SA	R		2.86E-01	95%		
Calc	SR	AIR	HX81Q1AG	U-238	1.69E-01	(1.53E-01)	U4	PCI/SA	R	1.55E-01	5.97E-01	95%		
Calc	SR	AIR	HX81R1AG	U-234	-4.90E-02	(1.39E-01)	U4	PCI/SA	R	3.37E-01	1.00E+00	78%		
Calc	SR	AIR	HX81R1AG	U-235	4.89E-02	(1.30E-01)	U4	PCI/SA	R	2.21E-01	7.72E-01	78%		
Calc	SR	AIR	HX81R1AG	U-238	-9.79E-02	(5.01E-02)	U4	PCI/SA	R	2.55E-01	8.41E-01	78%		
Calc	SR	AIR	HX81T1AG	U-234	3.77E-01	(2.44E-01)	U4	PCI/SA	R	2.45E-01	8.10E-01	82%		
Calc	SR	AIR	HX81T1AG	U-235	-4.72E-02	(3.38E-02)	U4	PCI/SA	R	1.73E-01	6.66E-01	82%		
Calc	SR	AIR	HX81T1AG	U-238	4.72E-01	(2.74E-01)		PCI/SA	R	2.74E-01	8.68E-01	82%		
Calc	SR	AIR	HX81V1AG	U-234	2.30E-02	(1.24E-01)	U4	PCI/SA	R	2.40E-01	7.91E-01	80%		
Calc	SR	AIR	HX81V1AG	U-235	1.15E-01	(1.16E-01)	U4	PCI/SA	R		3.12E-01	80%		
Calc	SR	AIR	HX81V1AG	U-238	1.15E-01	(2.13E-01)	U4	PCI/SA	R	3.79E-01	1.07E+00	80%		
Calc	SR	AIR	HX81W1AG	U-234	0.00E+00	(1.46E-01)	U4	PCI/SA	R		3.23E-01	83%		
Calc	SR	AIR	HX81W1AG	U-235	0.00E+00	(1.46E-01)	U4	PCI/SA	R		3.23E-01	83%		
Calc	SR	AIR	HX81W1AG	U-238	9.53E-02	(1.22E-01)	U4	PCI/SA	R	1.24E-01	5.71E-01	83%		
Calc	SR	AIR	HX81X1AG	U-234	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01	93%		
Calc	SR	AIR	HX81X1AG	U-235	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01	93%		
Calc	SR	AIR	HX81X1AG	U-238	-1.98E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.74E-01	93%		
Calc	SR	AIR	HX8111AG	U-234	-4.27E-02	(3.05E-02)	U4	PCI/SA	R	1.57E-01	6.03E-01	92%		
Calc	SR	AIR	HX8111AG	U-235	-2.13E-02	(2.15E-02)	U4	PCI/SA	R	1.11E-01	5.11E-01	92%		
Calc	SR	AIR	HX8111AG	U-238	-4.27E-02	(3.05E-02)	U4	PCI/SA	R	1.57E-01	6.03E-01	92%		
Calc	SR	AIR	HX8121AG	U-234	3.76E-01	(2.03E-01)		PCI/SA	R	1.03E-01	4.74E-01	111%		
Calc	SR	AIR	HX8121AG	U-235	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01	111%		
Calc	SR	AIR	HX8121AG	U-238	7.91E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.74E-01	111%		
Calc	SR	AIR	HX8131AG	U-234	-1.83E-02	(1.84E-02)	U4	PCI/SA	R	9.51E-02	4.38E-01	97%		
Calc	SR	AIR	HX8131AG	U-235	-3.66E-02	(2.62E-02)	U4	PCI/SA	R	1.35E-01	5.17E-01	97%		
Calc	SR	AIR	HX8131AG	U-238	-1.83E-02	(1.84E-02)	U4	PCI/SA	R	9.51E-02	4.38E-01	97%		
Calc	SR	AIR	HX8141AG	U-234	1.94E-01	(1.39E-01)	U4	PCI/SA	R		2.62E-01	101%		
Calc	SR	AIR	HX8141AG	U-235	-1.94E-02	(1.95E-02)	U4	PCI/SA	R	1.01E-01	4.64E-01	101%		
Calc	SR	AIR	HX8141AG	U-238	9.68E-02	(9.74E-02)	U4	PCI/SA	R		2.62E-01	101%		
Calc	SR	AIR	HX8151AG	U-234	1.23E+00	(3.72E-01)		PCI/SA	R	1.10E-01	4.81E-01	110%		
Calc	SR	AIR	HX8151AG	U-235	6.55E-02	(9.79E-02)	U4	PCI/SA	R	1.27E-01	5.15E-01	110%		
Calc	SR	AIR	HX8151AG	U-238	8.52E-01	(3.04E-01)		PCI/SA	R	8.98E-02	4.41E-01	110%		
Calc	SR	AIR	HX8161AG	U-234	8.28E-01	(3.22E-01)		PCI/SA	R	1.60E-01	6.16E-01	91%		

() - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC - Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significance

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:51

RADCALC v4.8.18

STL Richland

Batch Nbr: 6060317

Alpha Spec, Uiso by ALP , Results
Summary Report

4/13/2006 9:42:49 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	AIR	HX8161AG	U-235	0.00E+00	(1.33E-01)	U4	PCI/SA	R		2.95E-01		91%	
Calc	SR	AIR	HX8161AG	U-238	7.45E-01	(3.00E-01)		PCI/SA	R	1.01E-01	4.98E-01		91%	
Calc	SR	AIR	HX8171AG	U-234	2.00E+00	(5.28E-01)		PCI/SA	R	1.49E-01	6.05E-01		92%	
Calc	SR	AIR	HX8171AG	U-235	-9.06E-03	(9.12E-03)	U4	PCI/SA	R	7.45E-02	4.56E-01		92%	
Calc	SR	AIR	HX8171AG	U-238	7.69E-02	(1.15E-01)	U4	PCI/SA	R	1.49E-01	6.05E-01		92%	
Calc	SR	AIR	HX8181AG	U-234	-8.91E-03	(8.96E-03)	U4	PCI/SA	R	7.33E-02	4.48E-01		93%	
Calc	SR	AIR	HX8181AG	U-235	0.00E+00	(1.36E-01)	U4	PCI/SA	R		3.02E-01		93%	
Calc	SR	AIR	HX8181AG	U-238	-8.91E-03	(8.96E-03)	U4	PCI/SA	R	7.33E-02	4.48E-01		93%	
Calc	SR	AIR	H0EHT1AA	U-234	0.00E+00	(8.25E-03)	U4	PCI/SA	R		1.83E-02	B	98%	
Calc	SR	AIR	H0EHT1AA	U-235	-2.69E-03	(1.92E-03)	U4	PCI/SA	R	9.90E-03	3.80E-02	B	98%	
Calc	SR	AIR	H0EHT1AA	U-238	0.00E+00	(8.25E-03)	U4	PCI/SA	R		1.83E-02	B	98%	
Calc	SR	AIR	H0EHT1AC	U-234	1.10E+00	(1.58E-01)		PCI/SA	R	1.62E-02	5.76E-02	S	94%	110%
Calc	SR	AIR	H0EHT1AC	U-235	1.72E-02	(1.34E-02)	U4	PCI/SA	R	8.66E-03	4.26E-02	S	94%	38%
Calc	SR	AIR	H0EHT1AC	U-238	8.57E-01	(1.30E-01)		PCI/SA	R	6.12E-03	3.75E-02	S	94%	82%

P. Anderson

4-14-06

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC - Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 2

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:68
 RADCALC v4.8.18
 STL Richland

Batch Nbr: 6060317

Alpha Spec, Ulso by ALP , Calculated Results
Detailed Report

4/13/2006 9:42:50 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
1	Calc	SR	AIR	*STLE	AlplsoWoBS	HX81N1AG	PC/SA		02/05/06 06:00	04/13/06 18:58		1		1.00 Sa					
536403,P 0510								AIR				UITC15325 Alq		0.062149 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/13/06 17:18	U-232	778	8	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2333333	1000.1166			Y		(1.097E-02)						(0.000E+00)	16.090333		
1		04/13/06 17:18	U-234	1	1	ALP1	ED	N	N	3.6576E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2333333	1000.1166			Y		(1.097E-02)			9%			(0.000E+00)	16.090333		
2		04/13/06 17:18	U-235	0	1	ALP1	ED	N	N	3.6576E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2333333	1000.1166			Y		(1.097E-02)			9%			(0.000E+00)	16.090333		
3		04/13/06 17:18	U-238	0	0	ALP1	ED	N	N	3.6576E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2333333	1000.1166			Y		(1.097E-02)			9%			(0.000E+00)	16.090333		
Sq	Calc	Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC				
		04/13/06	U-232	R	76.834866		3.87747E+00	10.600997	10.600997	1.00 Sa	105%								
					(5.658588)		(1.3933E-01)	(0.496234)	(0.496234)	(0.027066)									
		04/13/06	U-234	R	0.07915	U4	3.99429E-03	0.01092	0.01092	1.00 Sa	105%			0.474097					
					(0.101288)		(5.0933E-03)	(0.013961)	(0.013961)	(0.027066)				0.103014					
		04/13/06	U-235	R	-0.019813	U4	-9.99883E-04	-0.002734	-0.002734	1.00 Sa	105%			0.474097					
					(0.019929)		(9.9988E-04)	(0.002745)	(0.002745)	(0.027066)				0.103014					
		04/13/06	U-238	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	105%			0.26819					
					(0.121205)		(0.0000E+00)	(0.016723)	(0.016723)	(0.027066)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
2	Calc	SR	AIR	*STLE	AlplsoWoBS	HX81Q1AG	PC/SA		02/05/06 06:35	04/13/06 18:59		1		1.00 Sa					
536403,P 0511								AIR				UITC15326 Alq		0.062276 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/13/06 17:19	U-232	691	13	ALP2	ED	Y	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2	1000.1166			Y		(1.086E-02)						(0.000E+00)	16.057503		
1		04/13/06 17:19	U-234	4	2	ALP2	ED	N	N	3.6206E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2	1000.1166			Y		(1.086E-02)			8%			(0.000E+00)	16.057503		
2		04/13/06 17:19	U-235	0	0	ALP2	ED	N	N	3.6206E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2	1000.1166			Y		(1.086E-02)			8%			(0.000E+00)	16.057503		
3		04/13/06 17:19	U-238	2	2	ALP2	ED	N	N	3.6206E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				200.2	1000.1166			Y		(1.086E-02)			8%			(0.000E+00)	16.057503		
Page 1															RecCnt:2	RADCALC v4.8.18			
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU															STL Richland				
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time																			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Minimum Detectable Concentration
 Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6060317													Alpha Spec, Uliso by ALP				Calculated Results				4/13/2006 9:42:50 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC								
	04/13/06	U-232	R	68.69476 (5.13688)		3.43855E+00 (1.3135E-01)	9.497275 (0.461302)	9.497275 (0.461302)	1.00 Sa (0.027066)	95%												
	04/13/06	U-234	R	0.379896 (0.217146)		1.79803E-02 (1.0090E-02)	0.052522 (0.029872)	0.052522 (0.029872)	1.00 Sa (0.027066)	95%			0.596518 0.155349									
	04/13/06	U-235	R	0.00E00 (0.129256)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.01787)	0.00E00 (0.01787)	1.00 Sa (0.027066)	95%			0.286005									
	04/13/06	U-238	R	0.168822 (0.153316)	U4	7.99024E-03 (7.2041E-03)	0.02334 (0.021155)	0.02334 (0.021155)	1.00 Sa (0.027066)	95%			0.596518 0.155349									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol							
3	Calc	SR	AIR	*STLE	AlplsoWoBS	HX81R1AG	PCI/SA		02/05/06 07:15	04/13/06 18:59			1	1.00 Sa								
												UITC15327 Alq				0.062458 Sa						
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn				
0	04/13/06 17:19	U-232	598	11	ALP3	ED	Y	N	3.7651E-01 (1.130E-02)		N	100%	N	1.0000E+00 (0.000E+00)		4.5045E-01 16.010877		1.0000E+00				
1	04/13/06 17:19	U-234	1	7	ALP3	ED	N	N	3.7651E-01 (1.130E-02)		N	78%	N	1.0000E+00 (0.000E+00)		4.5045E-01 16.010877		1.0000E+00				
2	04/13/06 17:19	U-235	1	3	ALP3	ED	N	N	3.7651E-01 (1.130E-02)		N	78%	N	1.0000E+00 (0.000E+00)		4.5045E-01 16.010877		1.0000E+00				
3	04/13/06 17:19	U-238	0	4	ALP3	ED	N	N	3.7651E-01 (1.130E-02)		N	78%	N	1.0000E+00 (0.000E+00)		4.5045E-01 16.010877		1.0000E+00				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC								
	04/13/06	U-232	R	57.049429 (4.351647)		2.97825E+00 (1.2228E-01)	7.910239 (0.402246)	7.910239 (0.402246)	1.00 Sa (0.027066)	78%												
	04/13/06	U-234	R	-0.048988 (0.138542)	U4	-2.00137E-03 (5.6558E-03)	-0.006792 (0.019206)	-0.006792 (0.019206)	1.00 Sa (0.027066)	78%			1.004868 0.336842									
	04/13/06	U-235	R	0.048923 (0.129604)	U4	1.99870E-03 (5.2903E-03)	0.006783 (0.017966)	0.006783 (0.017966)	1.00 Sa (0.027066)	78%			0.772352 0.220515									
	04/13/06	U-238	R	-0.097911 (0.050122)	U4	-4.00007E-03 (2.0000E-03)	-0.013576 (0.006907)	-0.013576 (0.006907)	1.00 Sa (0.027066)	78%			0.840539 0.254629									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol							
4	Calc	SR	AIR	*STLE	AlplsoWoBS	HX81T1AG	PCI/SA		02/05/06 07:45	04/13/06 18:59			1	1.00 Sa								
												UITC15328 Alq				0.061476 Sa						
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn				
0	04/13/06 17:19	U-232	626	3	ALP4	ED	Y	N	3.7951E-01 (1.139E-02)		N	100%	N	1.0000E+00 (0.000E+00)		4.5045E-01 16.266603		1.0000E+00				
(J) - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																						
Page 2													RecCnt:4		RADCALC v4.8.18							
															STL Richland							

Batch Nbr: 6060317				Alpha Spec, Uiso by ALP , Calculated Results										4/13/2006 9:42:50 PM				
1	04/13/06 17:19	U-234	4	4	ALP4	ED	N	N	3.7951E-01	N	82%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.0166666	999.95			Y		(1.139E-02)		7%		(0.000E+00)	16.266603				
2	04/13/06 17:19	U-235	0	2	ALP4	ED	N	N	3.7951E-01	N	82%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.0166666	999.95			Y		(1.139E-02)		7%		(0.000E+00)	16.266603				
3	04/13/06 17:19	U-238	5	5	ALP4	ED	N	N	3.7951E-01	N	82%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.0166666	999.95			Y		(1.139E-02)		7%		(0.000E+00)	16.266603				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	60.369239 (4.571103)		3.12674E+00 (1.2510E-01)	8.238957 (0.412015)	8.238957 (0.412015)	1.00 Sa (0.027066)	82%								
	04/13/06	U-234	R	0.3773 (0.244009)	U4	1.59981E-02 (1.0197E-02)	0.051492 (0.033172)	0.051492 (0.033172)	1.00 Sa (0.027066)	82%		0.809967		0.245361				
	04/13/06	U-235	R	-0.04717 (0.033751)	U4	-2.00010E-03 (1.4143E-03)	-0.006438 (0.004592)	-0.006438 (0.004592)	1.00 Sa (0.027066)	82%		0.666323		0.173496				
	04/13/06	U-238	R	0.471624 (0.273785)		1.99977E-02 (1.1401E-02)	0.064365 (0.037185)	0.064365 (0.037185)	1.00 Sa (0.027066)	82%		0.867854		0.274322				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
5	Calc	SR	AIR	*STLE	AlplsoWoBS	HX81V1AG	PC/SA		02/05/06 08:15	04/13/06 18:59			1	1.00 Sa				
	536403,P	0514			J6B270158-5 v4.8.18		AIR					UITC15329 Alq		0.062399 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Tre/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:19	U-232	630 /	3	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.25			Y		(1.176E-02)						(0.000E+00)	16.025803		
1	04/13/06 17:19	U-234	1	4	ALP5	ED	N	N	3.9200E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.25			Y		(1.176E-02)			7%			(0.000E+00)	16.025803		
2	04/13/06 17:19	U-235	1	0	ALP5	ED	N	N	3.9200E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.25			Y		(1.176E-02)			7%			(0.000E+00)	16.025803		
3	04/13/06 17:19	U-238	3	10	ALP5	ED	N	N	3.9200E-01		N	80%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.25			Y		(1.176E-02)			7%			(0.000E+00)	16.025803		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	57.923713 (4.382032)		3.14543E+00 (1.2545E-01)	8.023983 (0.400447)	8.023983 (0.400447)	1.00 Sa (0.027066)	80%								
	04/13/06	U-234	R	0.022995 (0.123985)	U4	9.98501E-04 (5.3827E-03)	0.003185 (0.017174)	0.003185 (0.017174)	1.00 Sa (0.027066)	80%		0.79062		0.239506				
	04/13/06	U-235	R	0.115089 (0.115776)	U4	4.99750E-03 (4.9975E-03)	0.015943 (0.016012)	0.015943 (0.016012)	1.00 Sa (0.027066)	80%		0.311892						
	04/13/06	U-238	R	0.115032 (0.212593)	U4	4.99500E-03 (9.2152E-03)	0.015935 (0.029436)	0.015935 (0.029436)	1.00 Sa (0.027066)	80%		1.068826		0.378692				
{} - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time													RecCnt:6		RADCALC v4.8.18 STL Richland			

Batch Nbr: 6060317				Alpha Spec, Uiso by ALP , Calculated Results										4/13/2006 9:42:50 PM				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	SR	AIR	*STLE	AlpIsoWoBS	HX81W1AG	PCI/SA		02/05/06 08:40	04/13/06 19:00			1	1.00 Sa				
536403,P 0515					J6B270158-6 v4.8.18		AIR					UITC15330 Alq		0.062523 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:19	U-232	608	3	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.15			Y		(1.090E-02)						(0.000E+00)	15.994154		
1	04/13/06 17:19	U-234	0	0	ALP7	ED	N	N	3.6324E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.15			Y		(1.090E-02)			7%			(0.000E+00)	15.994154		
2	04/13/06 17:19	U-235	0	0	ALP7	ED	N	N	3.6324E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.15			Y		(1.090E-02)			7%			(0.000E+00)	15.994154		
3	04/13/06 17:19	U-238	1	1	ALP7	ED	N	N	3.6324E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.15	1000.15			Y		(1.090E-02)			7%			(0.000E+00)	15.994154		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	60.191201		3.03472E+00	8.35459	8.35459	1.00 Sa	83%								
				(4.576461)		(1.2321E-01)	(0.421747)	(0.421747)	(0.027066)									
	04/13/06	U-234	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	83%			0.323023					
				(0.145986)		(0.0000E+00)	(0.020263)	(0.020263)	(0.027066)									
	04/13/06	U-235	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	83%			0.323023					
				(0.145986)		(0.0000E+00)	(0.020263)	(0.020263)	(0.027066)									
	04/13/06	U-238	R	0.095343	U4	3.99640E-03	0.013234	0.013234	1.00 Sa	83%			0.570972					
				(0.122009)		(5.0953E-03)	(0.016918)	(0.016918)	(0.027066)				0.124048					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
7	Calc	SR	AIR	*STLE	AlpIsoWoBS	HX81X1AG	PCI/SA		02/05/06 06:10	04/13/06 19:00			1	1.00 Sa				
536403,P 0516					J6B270158-7 v4.8.18		AIR					UITC15331 Alq		0.062372 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:20	U-232	738	5	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.171E-02)						(0.000E+00)	16.032859		
1	04/13/06 17:20	U-234	0	0	ALP8	ED	N	N	3.9047E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.171E-02)			8%			(0.000E+00)	16.032859		
2	04/13/06 17:20	U-235	0	0	ALP8	ED	N	N	3.9047E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.171E-02)			8%			(0.000E+00)	16.032859		
3	04/13/06 17:20	U-238	0	1	ALP8	ED	N	N	3.9047E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1333			Y		(1.171E-02)			8%			(0.000E+00)	16.032859		
Page 4													RecCnt:7		RADCALC v4.8.18			
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																		
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																		
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															STL Richland			

Batch Nbr: 6060317				Alpha Spec, Uiso by ALP , Calculated Results										4/13/2006 9:42:50 PM										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC										
	04/13/06	U-232	R	68.139041 (5.049476)		3.68408E+00 (1.3582E-01)	9.434925 (0.448438)	9.434925 (0.448438)	1.00 Sa (0.027066)	93%														
	04/13/06	U-234	R	0.00E00 (0.121252)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.016789)	0.00E00 (0.016789)	1.00 Sa (0.027066)	93%		0.268294												
	04/13/06	U-235	R	0.00E00 (0.121252)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.016789)	0.00E00 (0.016789)	1.00 Sa (0.027066)	93%		0.268294												
	04/13/06	U-238	R	-0.019803 (0.019918)	U4	-9.99867E-04 (9.9987E-04)	-0.002742 (0.002754)	-0.002742 (0.002754)	1.00 Sa (0.027066)	93%		0.474184 0.103006												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol									
8	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8111AG	PCI/SA		02/05/06 06:15	04/13/06 19:01		1		1.00 Sa										
536403,P 0517				J6B270158-8 v4.8.18				AIR					UITC15332 Alq	0.062366 Sa										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn						
0	04/13/06 17:21	U-232	680	0	ALP9	ED	Y	N	3.6711E-01 (1.101E-02)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 16.034415	1.0000E+00							
1	04/13/06 17:21	U-234	0	2	ALP9	ED	N	N	3.6711E-01 (1.101E-02)		N	92% 8%	N		1.0000E+00 (0.000E+00)	4.5045E-01 16.034415	1.0000E+00							
2	04/13/06 17:21	U-235	0	1	ALP9	ED	N	N	3.6711E-01 (1.101E-02)		N	92% 8%	N		1.0000E+00 (0.000E+00)	4.5045E-01 16.034415	1.0000E+00							
3	04/13/06 17:21	U-238	0	2	ALP9	ED	N	N	3.6711E-01 (1.101E-02)		N	92% 8%	N		1.0000E+00 (0.000E+00)	4.5045E-01 16.034415	1.0000E+00							
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC										
	04/13/06	U-232	R	66.85478 (5.004359)		3.39802E+00 (1.3031E-01)	9.256201 (0.450672)	9.256201 (0.450672)	1.00 Sa (0.027066)	92%														
	04/13/06	U-234	R	-0.042672 (0.030529)	U4	-1.99970E-03 (1.4140E-03)	-0.005908 (0.004213)	-0.005908 (0.004213)	1.00 Sa (0.027066)	92%		0.602652 0.156929												
	04/13/06	U-235	R	-0.021336 (0.021462)	U4	-9.99850E-04 (9.9985E-04)	-0.002954 (0.002967)	-0.002954 (0.002967)	1.00 Sa (0.027066)	92%		0.510779 0.110966												
	04/13/06	U-238	R	-0.042672 (0.030529)	U4	-1.99970E-03 (1.4140E-03)	-0.005908 (0.004213)	-0.005908 (0.004213)	1.00 Sa (0.027066)	92%		0.602652 0.156929												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol									
9	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8121AG	PCI/SA		02/05/06 06:05	04/13/06 19:01		1		1.00 Sa										
536403.000357				J6B270158-9 v4.8.18				AIR					UITC15333 Alq	0.061634 Sa										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn						
0	04/13/06 17:21	U-232	823	2	ALP10	ED	Y	N	3.6900E-01 (1.107E-02)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 16.22471	1.0000E+00							
				200.1833333 999.73333																				
(I) - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																Page 5			RecCnt:9			RADCALC v4.8.18		
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																								
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																								

Batch Nbr: 6060317														Alpha Spec, Ulso by ALP , Calculated Results										4/13/2006 9:42:50 PM		
1	04/13/06 17:21	U-234	4	1	ALP10	ED	N	N	3.6900E-01	N	111%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			200.1833333	999.73333			Y		(1.107E-02)		10%		(0.000E+00)	16.22471												
2	04/13/06 17:21	U-235	0	0	ALP10	ED	N	N	3.6900E-01	N	111%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			200.1833333	999.73333			Y		(1.107E-02)		10%		(0.000E+00)	16.22471												
3	04/13/06 17:21	U-238	1	1	ALP10	ED	N	N	3.6900E-01	N	111%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			200.1833333	999.73333			Y		(1.107E-02)		10%		(0.000E+00)	16.22471												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	U-232	R	81.386688		4.10923E+00	11.136016	11.136016	1.00 Sa	111%																
				(5.952327)		(1.4332E-01)	(0.512301)	(0.512301)	(0.027066)																	
	04/13/06	U-234	R	0.375943		1.89814E-02	0.05144	0.05144	1.00 Sa	111%			0.473992													
				(0.202942)		(1.0041E-02)	(0.027614)	(0.027614)	(0.027066)				0.102995													
	04/13/06	U-235	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	111%			0.268123													
				(0.121174)		(0.0000E+00)	(0.01658)	(0.01658)	(0.027066)																	
	04/13/06	U-238	R	0.079127	U4	3.99515E-03	0.010827	0.010827	1.00 Sa	111%			0.473992													
				(0.101261)		(5.0946E-03)	(0.013842)	(0.013842)	(0.027066)				0.102995													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
10	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8131AG	PCI/SA		02/05/06 06:40	04/13/06 19:01			1	1.00 Sa												
536403,000358					J6B270158-10 v4.8.18		AIR					UUTC15334 Alq		0.062529 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/13/06 17:21	U-232	792	7	ALP11	ED	Y	N	4.0388E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			200.2833333	1000.1			Y		(1.212E-02)						(0.000E+00)	15.992567										
1	04/13/06 17:21	U-234	0	1	ALP11	ED	N	N	4.0388E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			200.2833333	1000.1			Y		(1.212E-02)			8%			(0.000E+00)	15.992567										
2	04/13/06 17:21	U-235	0	2	ALP11	ED	N	N	4.0388E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			200.2833333	1000.1			Y		(1.212E-02)			8%			(0.000E+00)	15.992567										
3	04/13/06 17:21	U-238	0	1	ALP11	ED	N	N	4.0388E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			200.2833333	1000.1			Y		(1.212E-02)			8%			(0.000E+00)	15.992567										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	U-232	R	70.408713		3.94740E+00	9.773759	9.773759	1.00 Sa	97%																
				(5.174018)		(1.4054E-01)	(0.455037)	(0.455037)	(0.027066)																	
	04/13/06	U-234	R	-0.018302	U4	-9.99900E-04	-0.002541	-0.002541	1.00 Sa	97%			0.437836													
				(0.018408)		(9.9990E-04)	(0.002551)	(0.002551)	(0.027066)				0.095143													
	04/13/06	U-235	R	-0.036604	U4	-1.99980E-03	-0.005081	-0.005081	1.00 Sa	97%			0.516607													
				(0.026182)		(1.4141E-03)	(0.003623)	(0.003623)	(0.027066)				0.134552													
	04/13/06	U-238	R	-0.018302	U4	-9.99900E-04	-0.002541	-0.002541	1.00 Sa	97%			0.437836													
				(0.018408)		(9.9990E-04)	(0.002551)	(0.002551)	(0.027066)				0.095142													
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																Page 6	RecCnt:11	RADCALC v4.8.18								
IDC - Instrument Detection Level in Conc Units, MDC - Minimum Detectable Concentration																		STL Richland								
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																										

Batch Nbr: 6060317				Alpha Spec, Uiso by ALP , Calculated Results										4/13/2006 9:42:51 PM				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
11	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8141AG	PCI/SA		02/05/06 07:20	04/13/06 19:01			1	1.00 Sa				
536403,000359					J6B270158-11 v4.8.18		AIR					UITC15335 Alq		0.062172 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:21	U-232	763	8	ALP12	ED	Y	N	3.7397E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.15			Y		(1.122E-02)						(0.000E+00)	16.084514		
1	04/13/06 17:21	U-234	2	0	ALP12	ED	N	N	3.7397E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.15			Y		(1.122E-02)			9%			(0.000E+00)	16.084514		
2	04/13/06 17:21	U-235	0	1	ALP12	ED	N	N	3.7397E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.15			Y		(1.122E-02)			9%			(0.000E+00)	16.084514		
3	04/13/06 17:21	U-238	1	0	ALP12	ED	N	N	3.7397E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.15			Y		(1.122E-02)			9%			(0.000E+00)	16.084514		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EntFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	73.719333		3.80509E+00	10.174823	10.174823	1.00 Sa	101%								
				(5.441887)		(1.3807E-01)	(0.479048)	(0.479048)	(0.027066)									
	04/13/06	U-234	R	0.193642	U4	9.99500E-03	0.026727	0.026727	1.00 Sa	101%			0.262385					
				(0.138517)		(7.0675E-03)	(0.019058)	(0.019058)	(0.027066)									
	04/13/06	U-235	R	-0.019371	U4	-9.99850E-04	-0.002674	-0.002674	1.00 Sa	101%			0.463763					
				(0.019484)		(9.9985E-04)	(0.002685)	(0.002685)	(0.027066)				0.100749					
	04/13/06	U-238	R	0.096821	U4	4.99750E-03	0.013363	0.013363	1.00 Sa	101%			0.262384					
				(0.097385)		(4.9975E-03)	(0.01342)	(0.01342)	(0.027066)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
12	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8151AG	PCI/SA		02/05/06 07:50	04/13/06 19:02			1	1.00 Sa				
536403,000360					J6B270158-12 v4.8.18		AIR					UITC15336 Alq		0.062367 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:22	U-232	834	20	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2666666	2500.0833			Y		(1.122E-02)						(0.000E+00)	16.03414		
1	04/13/06 17:22	U-234	13	3	ALP69	ED	N	N	3.7411E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2666666	2500.0833			Y		(1.122E-02)			10%			(0.000E+00)	16.03414		
2	04/13/06 17:22	U-235	1	4	ALP69	ED	N	N	3.7411E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2666666	2500.0833			Y		(1.122E-02)			10%			(0.000E+00)	16.03414		
3	04/13/06 17:22	U-238	9	2	ALP69	ED	N	N	3.7411E-01		N	110%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.2666666	2500.0833			Y		(1.122E-02)			10%			(0.000E+00)	16.03414		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:12		RADCALC v4.8.18	
Page 7																	STL Richland	

Batch Nbr: 6060317				Alpha Spec, Ulso by ALP , Calculated Results										4/13/2006 9:42:51 PM				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/13/06	U-232	R	80.244177 (5.861894)		4.15645E+00 (1.4421E-01)	11.110185 (0.509599)	11.110185 (0.509599)	1.00 Sa (0.027066)	110%								
	04/13/06	U-234	R	1.23005 (0.372161)		6.37135E-02 (1.8017E-02)	0.170306 (0.050609)	0.170306 (0.050609)	1.00 Sa (0.027066)	110%			0.480995 0.109939					
	04/13/06	U-235	R	0.065513 (0.097885)	U4	3.39340E-03 (5.0570E-03)	0.009071 (0.013543)	0.009071 (0.013543)	1.00 Sa (0.027066)	110%			0.514989 0.126946					
	04/13/06	U-238	R	0.852167 (0.303585)		4.41401E-02 (1.4991E-02)	0.117987 (0.041494)	0.117987 (0.041494)	1.00 Sa (0.027066)	110%			0.44067 0.089765					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
13	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8161AG	PCI/SA		02/05/06 08:20	04/13/06 19:02			1	1.00 Sa				
536403,000361					J6B270158-13 v4.8.18		AIR					UITC15337 Alq		0.061934 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:22	U-232	674	20	ALP71	ED	Y	N	3.6536E-01 (1.096E-02)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 16.146219	1.0000E+00		
1	04/13/06 17:22	U-234	8	5	ALP71	ED	N	N	3.6536E-01 (1.096E-02)		N	91% 8%	N	1.0000E+00 (0.000E+00)	4.5045E-01 16.146219	1.0000E+00		
2	04/13/06 17:22	U-235	0	0	ALP71	ED	N	N	3.6536E-01 (1.096E-02)		N	91% 8%	N	1.0000E+00 (0.000E+00)	4.5045E-01 16.146219	1.0000E+00		
3	04/13/06 17:22	U-238	7	2	ALP71	ED	N	N	3.6536E-01 (1.096E-02)		N	91% 8%	N	1.0000E+00 (0.000E+00)	4.5045E-01 16.146219	1.0000E+00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/13/06	U-232	R	66.902886 (5.017089)		3.36088E+00 (1.2978E-01)	9.198721 (0.449801)	9.198721 (0.449801)	1.00 Sa (0.027066)	91%								
	04/13/06	U-234	R	0.828102 (0.32171)		3.79867E-02 (1.4166E-02)	0.113859 (0.043757)	0.113859 (0.043757)	1.00 Sa (0.027066)	91%			0.615791 0.160346					
	04/13/06	U-235	R	0.00E00 (0.133451)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.018349)	0.00E00 (0.018349)	1.00 Sa (0.027066)	91%			0.295289					
	04/13/06	U-238	R	0.745298 (0.299752)		3.41883E-02 (1.3236E-02)	0.102474 (0.0408)	0.102474 (0.0408)	1.00 Sa (0.027066)	91%			0.497992 0.101412					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
14	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8171AG	PCI/SA		02/05/06 08:45	04/13/06 19:02			1	1.00 Sa				
536403,000362					J6B270158-14 v4.8.18		AIR					UITC15338 Alq		0.062317 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:22	U-232	644	12	ALP83	ED	Y	N	3.4771E-01 (1.043E-02)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 16.047026	1.0000E+00		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																		
Page 8													RecCnt:14		RADCALC v4.8.18			
															STL Richland			

Batch Nbr: 6060317				Alpha Spec, Ulso by ALP , Calculated Results										4/13/2006 9:42:51 PM				
1	04/13/06 17:22	U-234	18	4	ALP83	ED	N	N	3.4771E-01	N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.1666666	2500.2333			Y		(1.043E-02)		8%		(0.000E+00)	16.047026				
2	04/13/06 17:22	U-235	0	1	ALP83	ED	N	N	3.4771E-01	N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.1666666	2500.2333			Y		(1.043E-02)		8%		(0.000E+00)	16.047026				
3	04/13/06 17:22	U-238	1	4	ALP83	ED	N	N	3.4771E-01	N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			200.1666666	2500.2333			Y		(1.043E-02)		8%		(0.000E+00)	16.047026				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	66.784517		3.21252E+00	9.239206	9.239206	1.00 Sa	92%								
				(5.037777)		(1.2679E-01)	(0.458028)	(0.458028)	(0.027066)									
	04/13/06	U-234	R	2.001043		8.83252E-02	0.276831	0.276831	1.00 Sa	92%		0.604555						
				(0.527901)		(2.1211E-02)	(0.071315)	(0.071315)	(0.027066)			0.149004						
	04/13/06	U-235	R	-0.009061	U4	-3.99963E-04	-0.001254	-0.001254	1.00 Sa	92%		0.45564						
				(0.009115)		(3.9996E-04)	(0.001259)	(0.001259)	(0.027066)			0.074502						
	04/13/06	U-238	R	0.076937	U4	3.39599E-03	0.010644	0.010644	1.00 Sa	92%		0.604555						
				(0.114932)		(5.0595E-03)	(0.015889)	(0.015889)	(0.027066)			0.149003						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BBSa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
15	Calc	SR	AIR	*STLE	AlplsoWoBS	HX8181AG	PCI/SA	02/05/06 06:45	04/13/06 19:02			1	1.00 Sa					
536403,000363					J6B270158-15 v4.8.18		AIR					UITC15339 Alq	0.062572 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 17:22	U-232	649	12	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			199.8666666	2500.0333			Y		(1.045E-02)						(0.000E+00)	15.981632		
1	04/13/06 17:22	U-234	0	1	ALP84	ED	N	N	3.4843E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			199.8666666	2500.0333			Y		(1.045E-02)			8%			(0.000E+00)	15.981632		
2	04/13/06 17:22	U-235	0	0	ALP84	ED	N	N	3.4843E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			199.8666666	2500.0333			Y		(1.045E-02)			8%			(0.000E+00)	15.981632		
3	04/13/06 17:22	U-238	0	1	ALP84	ED	N	N	3.4843E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			199.8666666	2500.0333			Y		(1.045E-02)			8%			(0.000E+00)	15.981632		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	U-232	R	66.990233		3.24236E+00	9.305587	9.305587	1.00 Sa	93%								
				(5.047944)		(1.2747E-01)	(0.460187)	(0.460187)	(0.027066)									
	04/13/06	U-234	R	-0.008907	U4	-3.99995E-04	-0.001237	-0.001237	1.00 Sa	93%		0.448426						
				(0.00896)		(3.9999E-04)	(0.001243)	(0.001243)	(0.027066)			0.073287						
	04/13/06	U-235	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	93%		0.301939						
				(0.136457)		(0.0000E+00)	(0.018955)	(0.018955)	(0.027066)									
	04/13/06	U-238	R	-0.008907	U4	-3.99995E-04	-0.001237	-0.001237	1.00 Sa	93%		0.448426						
				(0.00896)		(3.9999E-04)	(0.001243)	(0.001243)	(0.027066)			0.073287						
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU															Page 9	RecCnt:16	RADCALC v4.8.18	
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration															Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time			
															STL Richland			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 9

RecCnt:16

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060317

Alpha Spec, Uiso by ALP , Calculated Results

4/13/2006 9:42:51 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
16	Calc	SR	AIR	*STLE	AlpIsoWoBS	H0EHT1AA	PCI/SA	B	02/05/06 06:00	04/13/06 19:02			1	1.00 Sa					
0	INTRA-LAB	BLANK			J6C010000-317		AIR					UITC15340 Alq		1.00 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/13/06 17:23	U-232	676 ✓	3	ALP87	ED	Y	N	3.4106E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.6333333	1000.1			Y		(1.023E-02)						(0.000E+00)	1.00		
1		04/13/06 17:23	U-234	0	0	ALP87	ED	N	N	3.4106E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.6333333	1000.1			Y		(1.023E-02)			9%			(0.000E+00)	1.00		
2		04/13/06 17:23	U-235	0	2	ALP87	ED	N	N	3.4106E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.6333333	1000.1			Y		(1.023E-02)			9%			(0.000E+00)	1.00		
3		04/13/06 17:23	U-238	0	0	ALP87	ED	N	N	3.4106E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.6333333	1000.1			Y		(1.023E-02)			9%			(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC					
	04/13/06	U-232	R	4.468269 (0.321659)		3.38321E+00 (1.3025E-01)	9.919567 (0.48415)	9.919567 (0.48415)	1.00 Sa (0.017321)	98%									
	04/13/06	U-234	R	0.00E00 (0.008248)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.018312)	0.00E00 (0.018312)	1.00 Sa (0.017321)	98%			0.018251						
	04/13/06	U-235	R	-0.002689 (0.001923)	U4	-1.99980E-03 (1.4141E-03)	-0.005969 (0.004257)	-0.005969 (0.004257)	1.00 Sa (0.017321)	98%			0.038039 0.0099						
	04/13/06	U-238	R	0.00E00 (0.008248)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.018312)	0.00E00 (0.018312)	1.00 Sa (0.017321)	98%			0.018251						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
17	Calc	SR	AIR	*STLE	AlpIsoWoBS	H0EHT1AC	PCI/SA	S	02/05/06 06:00	04/13/06 19:02		UISF0442	1	1.00 Sa					
0	INTRA-LAB	CHECK			J6C010000-317		AIR					UISF0442 Alq		1.00 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/13/06 17:23	U-232	486 ✓	72	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.45	2500.0833			Y		(7.752E-03)						(0.000E+00)	1.00		
1		04/13/06 17:23	U-234	119	7	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.45	2500.0833			Y		(7.752E-03)			9%			(0.000E+00)	1.00		
2		04/13/06 17:23	U-235	2	2	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.45	2500.0833			Y		(7.752E-03)			9%			(0.000E+00)	1.00		
3		04/13/06 17:23	U-238	92	1	ALP85	ED	N	N	2.5840E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				199.45	2500.0833			Y		(7.752E-03)			9%			(0.000E+00)	1.00		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:17	RADCALC v4.8.18 STL Richland			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 10

RecCnt:17

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060317

Alpha Spec, Uiso by ALP , Calculated Results

4/13/2006 9:42:51 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIkLcC/MDC	StdDvMdC/LcC
04/13/06	U-232	R	4.197554			2.40790E+00	9.31858	9.31858	1.00 Sa	94%				
			(0.319927)			(1.1058E-01)	(0.511174)	(0.511174)	(0.017321)					
04/13/06	U-234	R	1.103865			5.93841E-01	2.450582	2.450582	1.00 Sa	94%	110%	0.057643		
			(0.158179)			(5.4704E-02)	(0.326339)	(0.326339)	(0.017321)			0.016202		
04/13/06	U-235	R	0.017153		U4	9.22760E-03	0.038079	0.038079	1.00 Sa	94%	38%	0.042568		
			(0.013356)			(7.1131E-03)	(0.029581)	(0.029581)	(0.017321)			0.008661		
04/13/06	U-238	R	0.856688			4.60869E-01	1.90185	1.90185	1.00 Sa	94%	82%	0.037498		
			(0.129745)			(4.8092E-02)	(0.269881)	(0.269881)	(0.017321)			0.006124		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 11

RecCnt:17

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

URANIUM ISOTOPIC COUNTING REQUEST

2035

C.R. Technician OD

Counting Time

Sample 200 Minutes

SOP's

Operating:

RICHRD008Date Counted 4/13/04Background See Alpha Regions Report

Review:

RICHRD0016BRC2/5/046060317

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS			Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)		
<u>Hx81N1AG</u>	See Counting Room Printout for ROI information				<u>1</u>	
<u>Hx81Q1AG</u>	See Counting Room Printout for ROI information				<u>2</u>	
<u>Hx81R1AG</u>	See Counting Room Printout for ROI information				<u>3</u>	
<u>Hx81T1AG</u>	See Counting Room Printout for ROI information				<u>4</u>	
<u>Hx81V1AG</u>	See Counting Room Printout for ROI information				<u>5</u>	
<u>Hx81W1AG</u>	See Counting Room Printout for ROI information				<u>7</u>	
<u>Hx81X1AG</u>	See Counting Room Printout for ROI information				<u>8</u>	
<u>Hx8111AG</u>	See Counting Room Printout for ROI information				<u>9</u>	
	See Counting Room Printout for ROI information					
Comments:						

URANIUM ISOTOPIC COUNTING REQUEST

2035

C.R. Technician SP

Counting Time

Sample 200 Minutes

SOP's

Operating:

RICHRD008Date Counted 4/13/06Background See Alpha Regions Report

Review:

RICHRD0016BRC2/5/20066060317

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS			Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)		
<u>Hx8121AG</u>	See Counting Room Printout for ROI information				<u>10</u>	
<u>Hx8131AG</u>	See Counting Room Printout for ROI information				<u>11</u>	
<u>Hx8141AG</u>	See Counting Room Printout for ROI information				<u>12</u>	
<u>Hx8151AG</u>	See Counting Room Printout for ROI information				<u>69</u>	
<u>Hx8161AG</u>	See Counting Room Printout for ROI information				<u>71</u>	<u>EDIT</u>
<u>Hx8171AG</u>	See Counting Room Printout for ROI information				<u>83</u>	
<u>Hx8181AG</u>	See Counting Room Printout for ROI information				<u>84</u>	
<u>HOEHT1AA</u>	See Counting Room Printout for ROI information				<u>87</u>	
<u>HOEHT1AC</u>	See Counting Room Printout for ROI information				<u>85</u>	
Comments:						

URANIUM ISOTOPIC STANDARDS AND TRACEABILITY

5/23/2006 12:06:44 PM

Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06.SMFractionIdentifier Between UIC15325 and UIC15340, Order by SMIdentifier,ConstituentCode,SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U23201A12A9		Ref: 12/16/2002	5.0587E+01	± 3.696E+00	DPM/G	
UIC15325	U-232	1.0124E+01 ± 7.397E-01 DPM	0.2067 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15326	U-232	1.0051E+01 ± 7.344E-01 DPM	0.2052 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15327	U-232	1.0115E+01 ± 7.390E-01 DPM	0.2065 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15328	U-232	1.0071E+01 ± 7.358E-01 DPM	0.2056 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15329	U-232	1.0041E+01 ± 7.337E-01 DPM	0.205 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15330	U-232	1.0056E+01 ± 7.347E-01 DPM	0.2053 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15331	U-232	1.0110E+01 ± 7.387E-01 DPM	0.2064 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15332	U-232	1.0046E+01 ± 7.340E-01 DPM	0.2051 g	3/20/2006 3/20/2006	Armstron	4.8981E+01 ± 3.579E+00 DPM/G
UIC15333	U-232	1.0053E+01 ± 7.345E-01 DPM	0.2053 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15334	U-232	1.0034E+01 ± 7.331E-01 DPM	0.2049 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15335	U-232	1.0073E+01 ± 7.360E-01 DPM	0.2057 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15336	U-232	1.0087E+01 ± 7.370E-01 DPM	0.206 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15337	U-232	1.0078E+01 ± 7.363E-01 DPM	0.2058 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15338	U-232	1.0073E+01 ± 7.360E-01 DPM	0.2057 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15339	U-232	1.0034E+01 ± 7.331E-01 DPM	0.2049 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G
UIC15340	U-232	1.0102E+01 ± 7.381E-01 DPM	0.2063 g	3/30/2006 3/30/2006	Armstron	4.8968E+01 ± 3.578E+00 DPM/G

1.0072E+001 ± 2.923E-002 (16) 0.290% 1.0034E+001 , 1.0124E+001

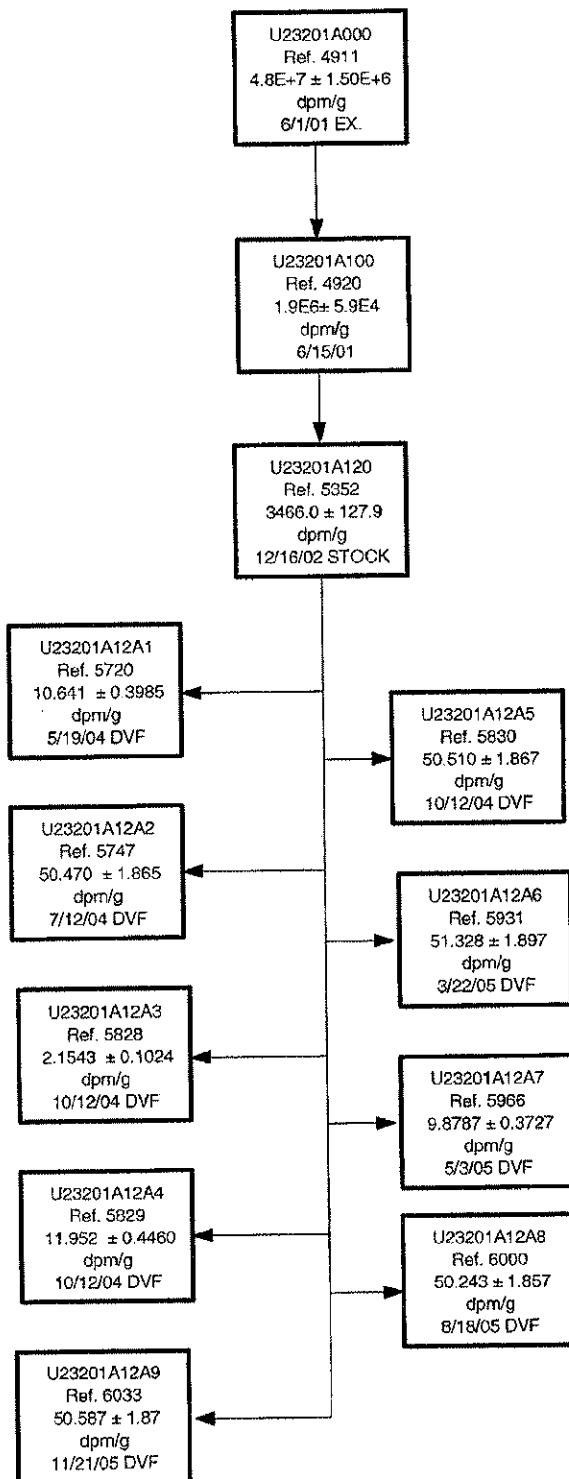
5/26/2006 12:06:52 PM

Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Like: UISF0442%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U23201A12A9 Ref: 12/16/2002 5.0587E+01 ± 3.696E+00 DPM/G						
UISF0442	U-232	9.9443E+00 ± 7.266E-01 DPM	0.203 g	3/16/2006 3/16/2006	Armstron	4.8987E+01 ± 3.579E+00 DPM/G
9.9443E+000 ± 9.944E+000 (1)				9.9443E+000 , 9.9443E+000		

U23201A12A



ISOTOPE DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>11/21/2005</u>
3) Source Identification Number / Ref. Number	<u>U23201A120</u>	<u>5352</u>	
4) Source Activity (dpm ± dpm/g)	<u>3.3670E+03</u>	±	<u>1.242E+02</u>
5) Percent error of Source Activity	<u>3.691</u>	%	
6) Weight of Source Material used (g)	<u>3.3055</u>		
7) (% Error) of Weight of Source Material used	<u>0.1452</u>	%	
8) Diluent	<u>2M HNO3, P-05-00468</u>		
9) Total Weight of the Dilution (g)	<u>220.01</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1364</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.0587E+01</u>	±	<u>1.870E+00</u>
12) Total Uncertainty	<u>3.696</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A12A9</u>	<u>6033</u>	
14) Calibration Reference Date	<u>11/21/2005</u>		
15) Isotope Inventory File update by/date	<u>TDA</u>	<u>11/21/2005</u>	
16) Reviewed by/date	<u></u>	<u></u>	
17) Location <u>QC LAB</u>	18) Exhausted	<u></u>	

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>DRM</u>	2) Date Prepared	<u>8/18/2005</u>
3) Source Identification Number / Ref. Number		<u>U23201A120</u>	<u>5352</u>
4) Source Activity (dpm ± dpm/g)	<u>3.3750E+03</u>	±	<u>1.246E+02</u>
5) Percent error of Source Activity	<u>3.691</u>	%	
6) Weight of Source Material used (g)	<u>3.2793</u>		
7) (% Error) of Weight of Source Material used	<u>0.1464</u>	%	
8) Diluent	<u>2M HNO3, P-05-00352</u>		
9) Total Weight of the Dilution (g)	<u>220.28</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1362</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.0243E+01</u>	±	<u>1.857E+00</u>
12) Total Uncertainty	<u>3.696</u>	%	
13) Dilution Identification Number / Ref. Number		<u>U23201A12A8</u>	<u>6000</u>
14) Calibration Reference Date	<u>8/18/2005</u>		
15) Isotope Inventory File update by/date	<u>DRM</u>		<u>8/18/2005</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>QC LAB</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/22/2005</u>
3) Source Identification Number / Ref. Number	<u>U23201A120</u>	<u>5352</u>	
4) Source Activity (dpm ± dpm/g)	<u>3.3892E+03</u>	±	<u>1.251E+02</u>
5) Percent error of Source Activity	<u>3.691</u>	%	
6) Weight of Source Material used (g)	<u>3.5826</u>		
7) (% Error) of Weight of Source Material used	<u>0.1340</u>	%	
8) Diluent	<u>2M HN03-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>236.56</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1268</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.1328E+01</u>	±	<u>1.897E+00</u>
12) Total Uncertainty	<u>3.696</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A12A6</u>	<u>5931</u>	
14) Calibration Reference Date	<u>3/22/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>3/22/2005</u>	
16) Reviewed by/date	<u>sew</u>	<u>3/23/2005</u>	
17) Location <u>QCLAB/STWT1129</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity } ^2 + \% \text{ error of Wt. Used } ^2 + \% \text{ error of Dilution Wt. } ^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>7/12/2004</u>
3) Source Identification Number / Ref. Number	<u>U23201A120</u>	<u>5352</u>	
4) Source Activity (dpm ± dpm/g)	<u>3.4125E+03</u>	±	<u>1.259E+02</u>
5) Percent error of Source Activity	<u>3.691</u>	%	
6) Weight of Source Material used (g)	<u>3.7137</u>		
7) (% Error) of Weight of Source Material used	<u>0.1293</u>	%	
8) Diluent	<u>2M HN03-P0400281</u>		
9) Total Weight of the Dilution (g)	<u>251.10</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.1195</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.0470E+01</u>	±	<u>1.865E+00</u>
12) Total Uncertainty	<u>3.695</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A12A2</u>	<u>5747</u>	
14) Calibration Reference Date	<u>7/12/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>7/12/2004</u>	
16) Reviewed by/date	<u></u>	<u></u>	
17) Location <u>QCLAB/STWT1016</u>	18) Exhausted	<u></u>	

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>12/16/2002</u>
3) Source Identification Number / Ref. Number	<u>U23201A100</u>	<u>4920</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.8680E+06</u>	±	<u>5.810E+04</u>
5) Percent error of Source Activity	<u>3.110</u>	%	
6) Weight of Source Material used (g)	<u>0.2431</u>		
7) (% Error) of Weight of Source Material used	<u>1.9745</u>	%	
8) Diluent	<u>2M HNO3-P0200579</u>		
9) Total Weight of the Dilution (g)	<u>131.02</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2290</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>3.4660E+03</u>	±	<u>1.279E+02</u>
12) Total Uncertainty	<u>3.691</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A120</u>	<u>5352</u>	
14) Calibration Reference Date	<u>12/16/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>12/16/2002</u>	
16) Reviewed by/date	<u>SEW</u>	<u>12/19/2002</u>	
17) Location	<u>QCLAB/STWT0710</u>	18) Exhausted	<u></u>

.....

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>6/15/2001</u>
3) Source Identification Number / Ref. Number		<u>U23201A000</u>	<u>4911</u>
4) Source Activity (dpm ± dpm/g)	<u>4.8289E+07</u>	±	<u>1.497E+06</u>
5) Percent error of Source Activity	<u>3.1</u>	%	
6) Weight of Source Material used (g)	<u>5.1444</u>		
7) (% Error) of Weight of Source Material used	<u>0.0933</u>	%	
8) Diluent	<u>2M HNO3-P0100281</u>		
9) Total Weight of the Dilution (g)	<u>131</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2290</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.8963E+06</u>	±	<u>5.897E+04</u>
12) Total Uncertainty	<u>3.110</u>	%	
13) Dilution Identification Number / Ref. Number		<u>U23201A100</u>	<u>4920</u>
14) Calibration Reference Date	<u>6/15/2001</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>6/15/2001</u>	
16) Reviewed by/date	<u>rross</u>	<u>6/20/2001</u>	
17) Location	<u>QCLABSTWT0413</u>	18) Exhausted	<u></u>

.....

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope U-232 2) Reference Numb. 4911

3) Half Life 69.9 yrs 4) Storage Location STDLAB

5) Source Identification Num U23201A000

CALIBRATION DATA

6) Activity as Received Units 21.76 uCi/g

7) Overall Uncertainty Percen 3.1%

8) Reference Date / Time 6/1/01 12:00 PST (12:00 PM)

9) Activity dpm/g 4.8307E+07 ± 1.4975E+06 dpm

10) Volume or Mass (ml/g) 5.18455g

11) Calibrated by IPL

12) Certificate Solution Numbe 763-34-3

SURVEY DATA

13) Date Received 6/4/2001

14) Surveyed by W.G

15) Survey Reading (Beta/Gamma) cpi <1k

16) Survey Reading (Alpha) cpm <100 cpm

17) Activity Conversion

21.76 uCi/ g x 2.22E+6dpm/uCi= 4.831E+7 ± 1.498E+6 (3.1%) dpm/g

18) Remarks

19) Isotope File Updated by 6/4/01 W.G

20) QC Approved ross 6/20/01



Isotope Products Laboratories

An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661-309-1010
Fax 661-257-8303

#4911
Rec'd 6/4/01

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide:	U-232	Customer:	SEVERN TRENT LABORATORIES, INC.		
Half-life:	68.9 ± 1.0 years	P.O. No.:	1017921-000 OP		
Catalog No.:	7332	Reference Date:	1-Jun-01	12:00	PST
Source No.:	763-34-3	Contained Radioactivity:	112.8	µCi	4174 kBq

Physical Description:

A. Mass of solution:	5.18455 g in 5 mL flame-sealed ampoule
B. Chemical form:	UO ₂ Cl ₂ in 2M HCl
C. Carrier content:	None
D. Density:	1.033 g/mL @ 20°C.

Radioimpurities:

None detected (Th-228 separated on 31 Jul 99; activity on 30 May 01 = 54.76 µCi)

Radionuclide Concentration: 21.76 µCi/g, 805.1 kBq/g

Method of Calibration:

This source was assayed using gamma ray spectrometry for Th-228 activity. The U-232 activity is calculated based on the amount of Th-228 that has grown in since 31 Jul 99.

Peak energy used for integration:	583.2 keV
Branching ratio used:	0.306 gammas per decay

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.8 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This solution has a working life of 5 years.

Daniel James Van Dalsem
Quality Control

31-May-01
Date Signed

IPL Ref. No.: 763-34

ISO 9001 CERTIFIED

Medical Imaging Laboratory

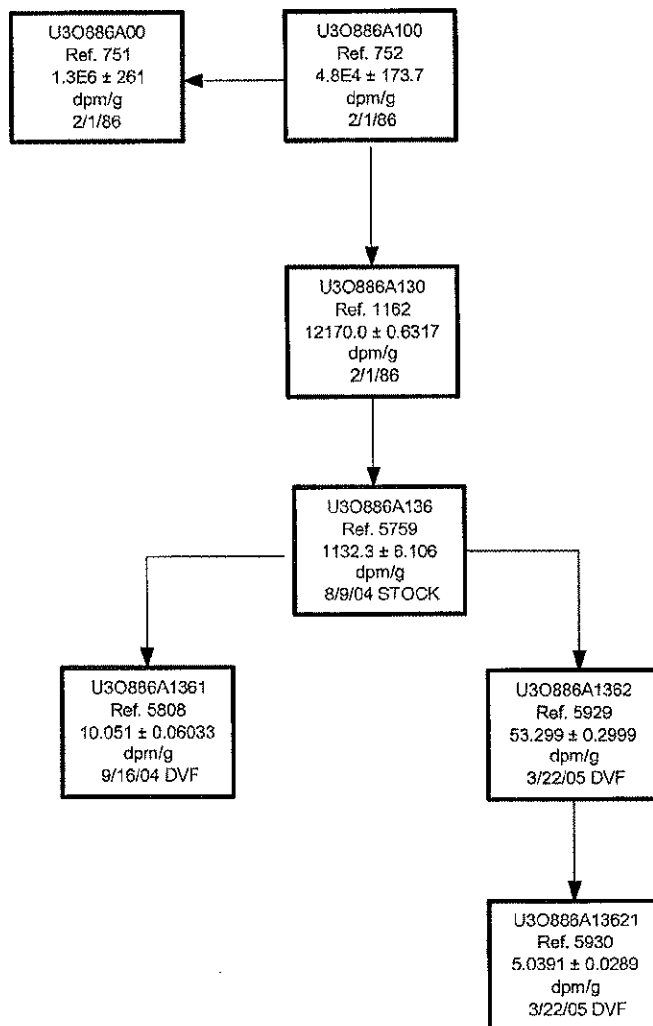
24937 Avenue Tibbitts Valencia, California 91355

Industrial Gauging Laboratory

1800 North Keystone Street Burbank, California 91504

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard:		U3O886A1362	Ref: 3/22/2005	3.5107E+01	± 1.950E-01	UG/G
UISF0442	U	3.0227E+00 ± 1.751E-02 UG	0.0861 g	3/16/2006 3/16/2006	Armstron	3.5107E+01 ± 1.950E-01 UG/G
		3.0227E+000 ± 3.023E+000 (1)	3.0227E+000 , 3.0227E+000			

U3088A136
Link



ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/16/2004</u>
3) Source Identification Number / Ref. Number	<u>U30886A136</u>	<u>5759</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.1323E+03</u>	\pm	<u>6.106E+00</u>
5) Source Activity (ug \pm ug/g)	<u>7.3622E+02</u>		<u>3.9701E+00</u>
6) Percent error of Source Activity	<u>0.539</u>	%	
7) Weight of Source Material used (g)	<u>2.0783</u>		
8) (% Error) of Weight of Source Material used	<u>0.2310</u>	%	
9) Diluent	<u>2M HNO3-P0400528</u>		
10) Total Weight of the Dilution (g)	<u>234.14</u>		
11) (% Error) of Total Weight of the Dilution	<u>0.1281</u>	%	
12) Specific Activity of Diluted Solution dpm/g	<u>1.0051E+01</u>	\pm	<u>6.033E-02</u>
13) Specific Activity of Diluted Solution ug/g	<u>6.5349E+00</u>	\pm	<u>3.922E-02</u>
14) Total Uncertainty	<u>0.600</u>	%	
15) Dilution Identification Number / Ref. Number	<u>U30886A1361</u>	<u>5808</u>	
16) Calibration Reference Date	<u>9/16/2004</u>		
17) Isotope Inventory File update by/date	<u>W.G</u>		<u>9/16/2004</u>
18) Reviewed by/date	<u>sew</u>		<u>9/21/2004</u>
19) Location <u>QCLB/STWT1049</u>	20) Exhausted		

CALCULATIONS

8) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

11) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

12) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

14) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006a, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by W.G 2) Date Prepared 8/9/2004

3) Source Identification Number / Ref. Number U30886A130 1162

4) Source Activity (dpm \pm dpm/g) 1.2170E+04 \pm 6.317E-01

5) Source Activity (ug \pm ug/g) 7.9129E+03 4.1073E-01

6) Percent error of Source Activity 0.519 %

7) Weight of Source Material used (g) 19.3584

8) (% Error) of Weight of Source Material used 0.0248 %

9) Diluent 2M HNO3-P0400528

10) Total Weight of the Dilution (g) 208.06

11) (% Error) of Total Weight of the Dilution 0.1442 %

12) Specific Activity of Diluted Solution dpm/g 1.1323E+03 \pm 6.106E+00

13) Specific Activity of Diluted Solution ug/g 7.3623E+02 \pm 3.970E+00

14) Total Uncertainty 0.539 %

15) Dilution Identification Number / Ref. Number U30886A136 5759

16) Calibration Reference Date 8/9/2004

17) Isotope Inventory File update by/date W.G 8/9/2004

18) Reviewed by/date sew 8/11/2004

19) Location QCLB/STWT1026 20) Exhausted

CALCULATIONS

8) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

11) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

12) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

14) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006a, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by S.S 2) Date Prepared 9/14/1987

3) Source Identification Number / Ref. Numl U30886A100 752

4) Source Activity (dpm \pm dpm/g) 4.7985E+04 \pm 1.731E+02

5) Source Activity (ug \pm ug/g) 3.1200E+04 1.1255E+02

6) Percent error of Source Activity 0.361 %

7) Weight of Source Material used (g) 20.4345

8) (% Error) of Weight of Source Material used 0.0005 %

9) Diluent 2M HNO3

10) Total Weight of the Dilution (g) 80.57

11) (% Error) of Total Weight of the Dilution 0.1386 %

12) Specific Activity of Diluted Solution dpm 1.2170E+04 \pm 6.317E+01

13) Specific Activity of Diluted Solution ug/l 7.9130E+03 \pm 4.107E+01

14) Total Uncertainty 0.519 %

15) Dilution Identification Number / Ref. Numl U30886A130 1162

16) Calibration Reference Date 2/1/1986

17) Isotope Inventory File update by/date S.S. 9/14/1987

18) Reviewed by/date D.M. 6/14/1994

19) Location PF-9 20) Exhausted 12/13/1990

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100) ^2$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100) ^2$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity} ^2 + \% \text{ error of Wt. used} + \% \text{ error of Dilution Wt.})}$

Form: CC-006, 5/5/94, Rev 2

ISOTOPE DILUTION RECORD

1) Prepared by	<u>C.S.</u>	2) Date Prepared	<u>3/24/86</u>
3) Source Identification Number / Ref. Number	<u>U3O886A000</u>	<u>751</u>	
4) Source Activity (dpm \pm dpm/g)	<u>1.3045E+06</u>	\pm	<u>2.610E+02</u>
5) Source Activity (ug \pm ug/g)	<u>8.4818E+05</u>		<u>1.6970E+02</u>
6) Percent error of Source Activity	<u>0.02</u>	%	
7) Weight of Source Material used (g)	<u>3.3411</u>		
8) (% Error) of Weight of Source Material used	<u>0.0206</u>	%	
9) Diluent	<u>8M HNO3</u>		
10) Total Weight of the Dilution (g)	<u>90.83</u>		
11) (% Error) of Total Weight of the Dilution	<u>0.1091</u>	%	
12) Specific Activity of Diluted Solution dpm/g	<u>4.7985E+04</u>	\pm	<u>1.731E+02</u>
13) Specific Activity of Diluted Solution ug/g	<u>3.1200E+04</u>	\pm	<u>1.125E+02</u>
14) Total Uncertainty	<u>0.361</u>	%	
15) Dilution Identification Number / Ref. Number	<u>U3O886A100</u>	<u>752</u>	
16) Calibration Reference Date	<u>2/1/86</u>		
17) Isotope Inventory File update by/date	<u>D.D.</u>		<u>5/7/86</u>
18) Reviewed by/date	<u>D.M.</u>		<u>6/15/94</u>
19) Location	<u>PF-8</u>	20) Exhausted	<u>11/8/93</u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100) ^2$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100) ^2$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity} ^2 + \% \text{ error of Wt. used} + \% \text{ error of Dilution Wt.})}$

ISOTOPE RECORD FORM

1) Isotope U-NAT 2) Reference Number #751
 3) Half Life Negligible Decay 4) Storage Location STD LAB
 5) Source Identification Number U3O886A000

***** CALIBRATION DATA

6) Activity as Received Units 1.304E+06 dpm/g
 7) Overall Uncertainty Percent 0.02%
 8) Reference Date / Time 1-Feb-86
 9) Activity dpm/g 1.304E+06 ± 2.61E+02 (0.02%) dpm/g
 10) Volume or Mass (ml/g) 10 g
 11) Calibrated by NBS
 12) Certificate Solution Number SRM 950B Uranium Oxide

***** SURVEY DATA

13) Date Received 2/1/86
 14) Surveyed by D.D. & A.V.R.
 15) Survey Reading (Beta/Gamma) cpm 100,000 cpm at Contact
 16) Survey Reading (Alpha) cpm Background

17) Activity Conversion (0.8481g U-nat / g U3O8) (0.99968) (1.538E+06 dpm / g U-nat) =
1.304E+06 ± 2.61E+02 (0.02%) dpm/g U3O8

18) Remarks MW U3O8 = (3 * 238.0289) + (8 * 15.9994) = 842.0819 g / mole U3O8

Material was ignited at 800°C in a crucible for 1 hr and cooled to room temperature in a sealed dessicator.

19) Isotope File Updated by D.D.

20) QC Approved D.B.

National Bureau of Standards

Certificate

751

Standard Reference Material 950b

Uranium Oxide (U_3O_8)

(In Cooperation with the Department of Energy, New Brunswick Laboratory, Argonne, Illinois)

This material consists of normal uranium in the form of oxide, U_3O_8 . It is intended to provide a reference material of known uranium content.

CERTIFIED VALUE

Uranium Oxide (U_3O_8) ... 99.968 \pm 0.002 percent

The stated uncertainty of ± 0.002 percent associated with the certified value is the linear sum of 0.0016 percent, which is the limit of the random error of the assay measurements at the 99 percent confidence level ($2.307 S_m$, where S_m is the standard error of the mean with $n = 14$), and 0.0012 percent, the estimated upper limit of unverifiable systematic errors including material variability. The above certified value is based on material heated at 800 °C for one hour in an open crucible in a muffle furnace and cooled in a desiccator. It is recommended that the material be freshly ignited in this manner to obtain accurate results.

The total impurities as determined by spectrochemical analysis are estimated to be less than 50 $\mu g/g$. The determined iron content is $\sim 3 \mu g/g$ and the determined vanadium content is $\sim 1 \mu g/g$. The assay of this material is based on the use of NBS Potassium Dichromate (SRM 156c) as the oxidizing agent as described in the NBS volumetric method for the precise assay of uranium metal. The assay values obtained are comparable with those obtained from the assay of NBS Uranium Metal (SRM 950) and NBS Uranium Oxide (SRM 950a). The certified value for this lot of uranium oxide has also been confirmed using a coulometric procedure.

The atomic weights used in the calculations are: uranium, 238.029, and oxygen, 15.9994.

This material was prepared under contract with the National Lead Company of Ohio, Cincinnati, Ohio. Assay of the material was performed by N. M. Trahey of the New Brunswick Laboratory, Argonne, Illinois and J. R. Moody and W. Koss of the NBS Analytical Chemistry Division. Iron and vanadium were measured by B. L. Diamondstone and S. A. Wicks of the NBS Analytical Chemistry Division.

Overall direction and coordination of the technical measurements leading to the certification were performed under the chairmanship of J. L. Barton.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by W. P. Reed.

Washington, D.C. 20234
March 1, 1973

J. Paul Cali, Chief
Office of Standard Reference Materials

(over)

URANIUM ISOTOPIC CONTINUING CALIBRATION

Quality Assurance Report. Generated 26-MAY-2006 11:31:39.13

QA Filename : \$DISK1:[ALP1.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.209390 Std Deviation : 0.003922

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.2087	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		0.2088	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.991667 Std Deviation : 0.340910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		7.8333	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		8.0000	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 347.736145 Std Deviation : 0.837966

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		347.7817	
2-APR-2006 08:20	chk		347.7714	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.178531 Std Deviation : 0.002072

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)			Page : 2	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.1764	
2-APR-2006 08:20	chk		0.1771	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.480862 Std Deviation : 0.068155

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 3-MAR-2006 09:09 chk 7.5331 | | |
 2-APR-2006 08:20 chk 7.3646 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:31:39.82

QA Filename : \$DISK1:[ALP1.QA]GROUP_1_BKG.QAF;4

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004940 Std Deviation : 0.003504

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.006180 Std Deviation : 0.004710

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002400 Std Deviation : 0.002080

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0010	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006852 Std Deviation : 0.004915

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 22:00	bkg		0.0030	
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.006290 Std Deviation : 0.004300

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0050	
4-MAR-2006 07:39	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005727 Std Deviation : 0.003834

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0050	
4-MAR-2006 07:39	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003118 Std Deviation : 0.002305

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	

4-MAR-2006 07:39 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001353 Std Deviation : 0.001267

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0020	
4-MAR-2006 07:39 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000947 Std Deviation : 0.001105

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0010	
4-MAR-2006 07:39 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0020	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001437 Std Deviation : 0.001592

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002531 Std Deviation : 0.002115

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003078 Std Deviation : 0.002412

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0050	
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004280 Std Deviation : 0.003263

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0080	
4-MAR-2006 07:39	bkg		0.0050	
3-APR-2006 07:30	bkg		0.0070	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.041836 Std Deviation : 0.025724

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0790	
4-MAR-2006 07:39	bkg		0.0730	
3-APR-2006 07:30	bkg		0.0880	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.041877 Std Deviation : 0.025460

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0770	
4-MAR-2006 07:39	bkg		0.0670	
3-APR-2006 07:30	bkg		0.0860	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.039706 Std Deviation : 0.023962

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0700	
4-MAR-2006 07:39	bkg		0.0590	
3-APR-2006 07:30	bkg		0.0840	

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0700	
4-MAR-2006 07:39	bkg		0.0590	
3-APR-2006 07:30	bkg		0.0840	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.033863 Std Deviation : 0.020505

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0640	
4-MAR-2006 07:39	bkg		0.0550	
3-APR-2006 07:30	bkg		0.0710	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.030701 Std Deviation : 0.018841

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0580	
4-MAR-2006 07:39	bkg		0.0520	
3-APR-2006 07:30	bkg		0.0610	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.010717 Std Deviation : 0.006843

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0150			
4-MAR-2006 07:39 bkg	0.0240			
3-APR-2006 07:30 bkg	0.0170			

Quality Assurance Report. Generated 26-MAY-2006 11:31:46.46

QA Filename : \$DISK1:[ALP2.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.174888 Std Deviation : 0.003258

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.1771	
2-APR-2006 08:20	chk		0.1815	In

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.587223 Std Deviation : 0.355166

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		9.1667	
2-APR-2006 08:20	chk		9.5000	In

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 351.902924 Std Deviation : 1.168208

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		352.6492	
------------------	-----	--	----------	--

2-APR-2006 08:20	chk		352.7590	
------------------	-----	--	----------	--

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.186264 Std Deviation : 0.001601

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.1868	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		0.1886	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.367174 Std Deviation : 0.052426

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		7.3322	
2-APR-2006 08:20	chk		7.4639	

Quality Assurance Report. Generated 26-MAY-2006 11:31:47.20

QA Filename : \$DISK1:[ALP2.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002562 Std Deviation : 0.002014

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0030	
4-MAR-2006 07:39	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004109 Std Deviation : 0.003167

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001672 Std Deviation : 0.001662

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003203 Std Deviation : 0.002755

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0030	
4-MAR-2006 07:39	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003421 Std Deviation : 0.003312

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0030		
------------------	-----	--	--------	--	--

4-MAR-2006 07:39	bkg		0.0030		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0030		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003156 Std Deviation : 0.002971

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0030		
------------------	-----	--	--------	--	--

4-MAR-2006 07:39	bkg		0.0040		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0030		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001906 Std Deviation : 0.002348

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001140 Std Deviation : 0.001378

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0040	In
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000859 Std Deviation : 0.001180

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0020			
4-MAR-2006 07:39 bkg	0.0020			
3-APR-2006 07:30 bkg	0.0000			

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001468 Std Deviation : 0.001402

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00 bkg			0.0020			
4-MAR-2006 07:39 bkg			0.0010			
3-APR-2006 07:30 bkg			0.0010			

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002297 Std Deviation : 0.001973

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00 bkg			0.0030			
4-MAR-2006 07:39 bkg			0.0040			
3-APR-2006 07:30 bkg			0.0050			

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003046 Std Deviation : 0.002497

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0050	
4-MAR-2006 07:39	bkg		0.0050	
3-APR-2006 07:30	bkg		0.0070	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004046 Std Deviation : 0.003113

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0060	
4-MAR-2006 07:39	bkg		0.0080	
3-APR-2006 07:30	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.042431 Std Deviation : 0.024625

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0700	
4-MAR-2006 07:39	bkg		0.0640	
3-APR-2006 07:30	bkg		0.0710	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.044337 Std Deviation : 0.026548

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0800	
4-MAR-2006 07:39	bkg		0.0740	
3-APR-2006 07:30	bkg		0.1030	In

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.042212 Std Deviation : 0.025508

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0760	
4-MAR-2006 07:39	bkg		0.0720	

3-APR-2006 07:30 bkg 0.0980 |In| |

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.037854 Std Deviation : 0.023553

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.1000	In	
------------------	-----	--	--------	----	--

4-MAR-2006 07:39	bkg		0.0620		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0760		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.034151 Std Deviation : 0.021321

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0880	In	
------------------	-----	--	--------	----	--

4-MAR-2006 07:39	bkg		0.0520		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0740		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.011139 Std Deviation : 0.007790

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0230	
------------------	-----	--	--------	--

4-MAR-2006 07:39	bkg		0.0160	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0310	In
------------------	-----	--	--------	----

Quality Assurance Report. Generated 26-MAY-2006 11:31:53.72

QA Filename : \$DISK1:[ALP3.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.365232 Std Deviation : 0.005601

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.3700	
2-APR-2006 08:20	chk		0.3755	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.011495 Std Deviation : 0.235412

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		8.0000	
2-APR-2006 08:20	chk		8.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 357.060303 Std Deviation : 0.900617

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		357.6643	
2-APR-2006 08:20	chk		357.6266	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.371310 Std Deviation : 0.002356

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				
				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.3719	
2-APR-2006 08:20	chk		0.3743	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.391490 Std Deviation : 0.052211

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------


```

-----
3-MAR-2006 09:09  chk          7.3708  | | |
2-APR-2006 08:20  chk          7.2971  | | |

```

Quality Assurance Report. Generated 26-MAY-2006 11:31:54.43

QA Filename : \$DISK1:[ALP3.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.004812 Std Deviation : 0.004138

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:00  bkg          0.0070  | | |
4-MAR-2006 07:39  bkg          0.0100  | | |
3-APR-2006 07:30  bkg          0.0030  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.006718 Std Deviation : 0.006060

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:00  bkg          0.0140  | | |
4-MAR-2006 07:39  bkg          0.0100  | | |
3-APR-2006 07:30  bkg          0.0050  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002562 Std Deviation : 0.002285

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0020	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006812 Std Deviation : 0.005942

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0090	
4-MAR-2006 07:39	bkg		0.0050	
3-APR-2006 07:30	bkg		0.0130	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.006031 Std Deviation : 0.004902

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0110	
4-MAR-2006 07:39	bkg		0.0070	
3-APR-2006 07:30	bkg		0.0110	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005406 Std Deviation : 0.004478

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0110	
4-MAR-2006 07:39	bkg		0.0070	
3-APR-2006 07:30	bkg		0.0090	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003250 Std Deviation : 0.003141

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0060	

4-MAR-2006 07:39 bkg	0.0100	In
3-APR-2006 07:30 bkg	0.0070	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002156 Std Deviation : 0.002397

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0070	In
4-MAR-2006 07:39 bkg	0.0070	In
3-APR-2006 07:30 bkg	0.0060	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001562 Std Deviation : 0.001900

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0070	In
4-MAR-2006 07:39 bkg	0.0050	
3-APR-2006 07:30 bkg	0.0050	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002843 Std Deviation : 0.002852

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0030		
4-MAR-2006 07:39	bkg		0.0040		
3-APR-2006 07:30	bkg		0.0040		

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004562 Std Deviation : 0.004249

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0070		
4-MAR-2006 07:39	bkg		0.0060		
3-APR-2006 07:30	bkg		0.0090		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004624 Std Deviation : 0.004202

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0100	
4-MAR-2006 07:39	bkg		0.0080	
3-APR-2006 07:30	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004843 Std Deviation : 0.004220

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0120	
4-MAR-2006 07:39	bkg		0.0090	
3-APR-2006 07:30	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.019529 Std Deviation : 0.018401

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0480	
4-MAR-2006 07:39	bkg		0.0480	
3-APR-2006 07:30	bkg		0.0510	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.019841 Std Deviation : 0.018403

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:00	bkg		0.0500		
4-MAR-2006 07:39	bkg		0.0510		
3-APR-2006 07:30	bkg		0.0510		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.018873 Std Deviation : 0.017331

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:00	bkg		0.0490		
4-MAR-2006 07:39	bkg		0.0510		
3-APR-2006 07:30	bkg		0.0480		

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:00	bkg		0.0490		
4-MAR-2006 07:39	bkg		0.0510		
3-APR-2006 07:30	bkg		0.0480		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.015404 Std Deviation : 0.015255

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:00	bkg		0.0350		
4-MAR-2006 07:39	bkg		0.0340		
3-APR-2006 07:30	bkg		0.0530	In	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.013873 Std Deviation : 0.013859

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:00	bkg		0.0320		
4-MAR-2006 07:39	bkg		0.0300		
3-APR-2006 07:30	bkg		0.0500	In	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005124 Std Deviation : 0.004455

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00 bkg	0.0100	
4-MAR-2006 07:39 bkg	0.0080	
3-APR-2006 07:30 bkg	0.0090	

Quality Assurance Report. Generated 26-MAY-2006 11:32:01.38

QA Filename : \$DISK1:[ALP4.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.235765 Std Deviation : 0.004547

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.2365	
2-APR-2006 08:20	chk		0.2385	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.527778 Std Deviation : 0.247916

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		7.5000	
2-APR-2006 08:20	chk		7.6667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 347.997253 Std Deviation : 0.967692

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		348.6498	
2-APR-2006 08:20	chk		348.6057	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.295250 Std Deviation : 0.002711

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

3-MAR-2006 09:09	chk		0.2987	
2-APR-2006 08:20	chk		0.2960	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.465235 Std Deviation : 0.047879

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		7.5022	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		7.4326	
------------------	-----	--	--------	--

Quality Assurance Report. Generated 26-MAY-2006 11:32:02.29

QA Filename : \$DISK1:[ALP4.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004515 Std Deviation : 0.004451

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0060	
------------------	-----	--	--------	--

4-MAR-2006 07:39	bkg		0.0090	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0070	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.008271 Std Deviation : 0.013576

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0050	
------------------	-----	--	--------	--

4-MAR-2006 07:39 bkg	0.0050	
3-APR-2006 07:30 bkg	0.0090	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002484 Std Deviation : 0.002716

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0050	
4-MAR-2006 07:39 bkg	0.0030	
3-APR-2006 07:30 bkg	0.0040	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007514 Std Deviation : 0.009862

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)			Page : 2
--	--	--	----------

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0070	
4-MAR-2006 07:39 bkg	0.0050	
3-APR-2006 07:30 bkg	0.0050	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.008423 Std Deviation : 0.011764

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0070		
4-MAR-2006 07:39	bkg		0.0040		
3-APR-2006 07:30	bkg		0.0060		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007756 Std Deviation : 0.011318

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:00	bkg		0.0070		
4-MAR-2006 07:39	bkg		0.0040		
3-APR-2006 07:30	bkg		0.0050		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004514 Std Deviation : 0.006431

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0060	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002181 Std Deviation : 0.002876

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 3				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001242 Std Deviation : 0.001601

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002303 Std Deviation : 0.002592

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0040	
------------------	-----	--	--------	--

4-MAR-2006 07:39	bkg		0.0040	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0020	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002182 Std Deviation : 0.001895

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0060	In
------------------	-----	--	--------	----

4-MAR-2006 07:39	bkg		0.0020	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0020	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002242 Std Deviation : 0.002062

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0070	In
4-MAR-2006 07:39	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002485 Std Deviation : 0.002346

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0080	In
4-MAR-2006 07:39	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.017089 Std Deviation : 0.015840

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0430	
4-MAR-2006 07:39 bkg	0.0470	
3-APR-2006 07:30 bkg	0.0330	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.018119 Std Deviation : 0.016968

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00 bkg			0.0430	
4-MAR-2006 07:39 bkg			0.0520	
3-APR-2006 07:30 bkg			0.0430	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.017180 Std Deviation : 0.016328

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 22:00 bkg			0.0430	
4-MAR-2006 07:39 bkg			0.0520	In
3-APR-2006 07:30 bkg			0.0410	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.018392 Std Deviation : 0.025879

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0530	
4-MAR-2006 07:39	bkg		0.0310	
3-APR-2006 07:30	bkg		0.0390	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.016725 Std Deviation : 0.024221

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0480	
4-MAR-2006 07:39	bkg		0.0280	
3-APR-2006 07:30	bkg		0.0370	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.006423 Std Deviation : 0.010156

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0100	
4-MAR-2006 07:39	bkg		0.0080	
3-APR-2006 07:30	bkg		0.0140	

Quality Assurance Report. Generated 26-MAY-2006 11:32:09.33

QA Filename : \$DISK1:[ALP5.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.385949 Std Deviation : 0.005662

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

3-MAR-2006 09:09	chk		0.3902		
------------------	-----	--	--------	--	--

2-APR-2006 08:20	chk		0.3847		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.326389 Std Deviation : 0.243163

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

3-MAR-2006 09:09	chk		6.6667	In	
------------------	-----	--	--------	----	--

2-APR-2006 08:20	chk		7.5000		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 356.533112 Std Deviation : 1.567827

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		357.0318	
2-APR-2006 08:20	chk		358.0470	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.396545 Std Deviation : 0.002088

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.3975	
2-APR-2006 08:20	chk		0.3964	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.405073 Std Deviation : 0.053514

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
3-MAR-2006 09:09  chk          7.4141  | | |
2-APR-2006 08:20  chk          7.3342  | | |

```

Quality Assurance Report. Generated 26-MAY-2006 11:32:10.01

QA Filename : \$DISK1:[ALP5.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.006759 Std Deviation : 0.003205

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0090	
4-MAR-2006 07:39	bkg		0.0080	
3-APR-2006 07:30	bkg		0.0090	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.010958 Std Deviation : 0.005426

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0190	
4-MAR-2006 07:39	bkg		0.0150	
3-APR-2006 07:30	bkg		0.0130	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002400 Std Deviation : 0.001225

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0040	
4-MAR-2006 07:39	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.010718 Std Deviation : 0.004315

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0160	
4-MAR-2006 07:39	bkg		0.0120	
3-APR-2006 07:30	bkg		0.0130	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.010678 Std Deviation : 0.004827

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0120	
4-MAR-2006 07:39	bkg		0.0100	
3-APR-2006 07:30	bkg		0.0060	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.009919 Std Deviation : 0.004405

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0120	
4-MAR-2006 07:39	bkg		0.0100	
3-APR-2006 07:30	bkg		0.0060	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005319 Std Deviation : 0.003275

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0050	

4-MAR-2006 07:39 bkg	0.0060	
3-APR-2006 07:30 bkg	0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

----- Sample Driven N-Sigma Test Parameters -----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002240 Std Deviation : 0.001588

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0010	
4-MAR-2006 07:39 bkg	0.0010	
3-APR-2006 07:30 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0010	
4-MAR-2006 07:39 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00 bkg	0.0010	
----------------------	--------	--

4-MAR-2006 07:39 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0030	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00 bkg			0.0040	
4-MAR-2006 07:39 bkg			0.0030	
3-APR-2006 07:30 bkg			0.0040	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002520 Std Deviation : 0.001939

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00 bkg			0.0070	In
4-MAR-2006 07:39 bkg			0.0030	
3-APR-2006 07:30 bkg			0.0050	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003479 Std Deviation : 0.002678

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0080	
4-MAR-2006 07:39	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0050	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.017397 Std Deviation : 0.016835

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0440	
4-MAR-2006 07:39	bkg		0.0250	
3-APR-2006 07:30	bkg		0.0400	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.017157 Std Deviation : 0.015984

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0410	
4-MAR-2006 07:39	bkg		0.0260	
3-APR-2006 07:30	bkg		0.0390	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.016357 Std Deviation : 0.015168

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:00	bkg		0.0380	
4-MAR-2006 07:39	bkg		0.0240	
3-APR-2006 07:30	bkg		0.0360	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.021917 Std Deviation : 0.025857

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 22:00	bkg		0.0380	
4-MAR-2006 07:39	bkg		0.0240	
3-APR-2006 07:30	bkg		0.0470	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.019917 Std Deviation : 0.023903

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0350	
------------------	-----	--	--------	--

4-MAR-2006 07:39	bkg		0.0230	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0410	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006519 Std Deviation : 0.008450

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:00	bkg		0.0090	
------------------	-----	--	--------	--

4-MAR-2006 07:39	bkg		0.0060	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0110	
------------------	-----	--	--------	--

Quality Assurance Report. Generated 26-MAY-2006 11:32:16.91

QA Filename : \$DISK1:[ALP7.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.351482 Std Deviation : 0.005794

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.3536	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		0.3489	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.869370 Std Deviation : 0.296937

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		6.8333	
------------------	-----	--	--------	--

2-APR-2006 08:20	chk		6.3333	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 352.725342 Std Deviation : 1.045141

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		352.0954	
2-APR-2006 08:20	chk		352.0728	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.366203 Std Deviation : 0.003511

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

3-MAR-2006 09:09	chk		0.3670	
2-APR-2006 08:20	chk		0.3692	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.469157 Std Deviation : 0.055957

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------


```

-----
3-MAR-2006 09:09  chk          7.4595  | | |
2-APR-2006 08:20  chk          7.4651  | | |

```

Quality Assurance Report. Generated 26-MAY-2006 11:32:17.58

QA Filename : \$DISK1:[ALP7.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000825 Std Deviation : 0.000984

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg          0.0020  | | |
4-MAR-2006 07:40  bkg          0.0030  |In| |
3-APR-2006 07:30  bkg          0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001825 Std Deviation : 0.002205

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg          0.0050  | | |
4-MAR-2006 07:40  bkg          0.0000  | | |
3-APR-2006 07:30  bkg          0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000275 Std Deviation : 0.000554

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001900 Std Deviation : 0.002457

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001850 Std Deviation : 0.002815

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0000		
4-MAR-2006 07:40	bkg		0.0010		
3-APR-2006 07:30	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001650 Std Deviation : 0.002694

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0000		
4-MAR-2006 07:40	bkg		0.0000		
3-APR-2006 07:30	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000750 Std Deviation : 0.001056

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0000		

4-MAR-2006 07:40	bkg	0.0010			
3-APR-2006 07:30	bkg	0.0000			

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000425 Std Deviation : 0.000501

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg	0.0010			
4-MAR-2006 07:40	bkg	0.0010			
3-APR-2006 07:30	bkg	0.0000			

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000300 Std Deviation : 0.000516

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg	0.0010			
4-MAR-2006 07:40	bkg	0.0010			
3-APR-2006 07:30	bkg	0.0000			

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000475 Std Deviation : 0.000640

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0010		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0000		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0000		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001275 Std Deviation : 0.001198

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0030		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0020		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0000		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001675 Std Deviation : 0.001474

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0050	In
4-MAR-2006 07:40	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002325 Std Deviation : 0.001966

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0100	Ac
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.014923 Std Deviation : 0.011773

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0460	In
4-MAR-2006 07:40	bkg		0.0260	
3-APR-2006 07:30	bkg		0.0300	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.014373 Std Deviation : 0.011204

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0380	In	
4-MAR-2006 07:40	bkg		0.0270		
3-APR-2006 07:30	bkg		0.0290		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.013423 Std Deviation : 0.010489

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0340		
4-MAR-2006 07:40	bkg		0.0270		
3-APR-2006 07:30	bkg		0.0260		

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0340		
4-MAR-2006 07:40	bkg		0.0270		
3-APR-2006 07:30	bkg		0.0260		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.015773 Std Deviation : 0.020742

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0300	
4-MAR-2006 07:40	bkg		0.0280	
3-APR-2006 07:30	bkg		0.0430	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.013698 Std Deviation : 0.018932

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0180	
4-MAR-2006 07:40	bkg		0.0280	
3-APR-2006 07:30	bkg		0.0370	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005474 Std Deviation : 0.006365

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0130	
4-MAR-2006 07:40 bkg	0.0080	
3-APR-2006 07:30 bkg	0.0100	

Quality Assurance Report. Generated 26-MAY-2006 11:32:24.30

QA Filename : \$DISK1:[ALP8.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.375387 Std Deviation : 0.006775

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.3793	
------------------	-----	--	--------	--

2-APR-2006 08:21	chk		0.3839	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.577778 Std Deviation : 0.238664

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		9.0000	
------------------	-----	--	--------	--

2-APR-2006 08:21	chk		8.8333	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 363.218506 Std Deviation : 1.400426

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		363.5343	
2-APR-2006 08:21	chk		363.5130	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.387987 Std Deviation : 0.004208

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

3-MAR-2006 09:09	chk		0.3911	
2-APR-2006 08:21	chk		0.3927	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.336971 Std Deviation : 0.064671

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 3-MAR-2006 09:09 chk 7.2871 | | |
 2-APR-2006 08:21 chk 7.3052 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:32:24.95

QA Filename : \$DISK1:[ALP8.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000138 Std Deviation : 0.000351

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	In
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000586 Std Deviation : 0.000867

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0010	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000207 Std Deviation : 0.000412

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000655 Std Deviation : 0.000769

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				
			Page : 2	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0020	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000621 Std Deviation : 0.000820

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000586 Std Deviation : 0.000824

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000414 Std Deviation : 0.000780

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	

4-MAR-2006 07:40 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000379 Std Deviation : 0.000728

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0000	
4-MAR-2006 07:40 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000448 Std Deviation : 0.000632

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0000	
4-MAR-2006 07:40 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000690 Std Deviation : 0.001039

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0020	
4-MAR-2006 07:40	bkg		0.0030	In
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000793 Std Deviation : 0.000901

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0010	
4-MAR-2006 07:40	bkg		0.0030	In
3-APR-2006 07:30	bkg		0.0030	In

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000931 Std Deviation : 0.001163

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0020	
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001138 Std Deviation : 0.001481

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0020	
4-MAR-2006 07:40	bkg		0.0050	In
3-APR-2006 07:30	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.012136 Std Deviation : 0.012234

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0280	
4-MAR-2006 07:40	bkg		0.0320	
3-APR-2006 07:30	bkg		0.0300	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.014343 Std Deviation : 0.014392

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0340		
4-MAR-2006 07:40	bkg		0.0370		
3-APR-2006 07:30	bkg		0.0340		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.013653 Std Deviation : 0.013588

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0310		
4-MAR-2006 07:40	bkg		0.0360		
3-APR-2006 07:30	bkg		0.0320		

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0310		
4-MAR-2006 07:40	bkg		0.0360		
3-APR-2006 07:30	bkg		0.0320		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.011447 Std Deviation : 0.012559

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0370	In
------------------	-----	--	--------	----

4-MAR-2006 07:40	bkg		0.0310	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0400	In
------------------	-----	--	--------	----

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.010826 Std Deviation : 0.011951

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0340	
------------------	-----	--	--------	--

4-MAR-2006 07:40	bkg		0.0300	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0400	In
------------------	-----	--	--------	----

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003930 Std Deviation : 0.004148

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0090			
4-MAR-2006 07:40 bkg	0.0110			
3-APR-2006 07:30 bkg	0.0030			

Quality Assurance Report. Generated 26-MAY-2006 11:32:31.05

QA Filename : \$DISK1:[ALP9.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.373796 Std Deviation : 0.003643

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.3708	
2-APR-2006 08:21	chk		0.3694	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.233334 Std Deviation : 0.360775

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		6.3333	
2-APR-2006 08:21	chk		6.3333	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 349.207825 Std Deviation : 0.695822

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		349.0484	
2-APR-2006 08:21	chk		348.9410	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.398104 Std Deviation : 0.002628

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

3-MAR-2006 09:09	chk		0.3983	
2-APR-2006 08:21	chk		0.3971	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 6.376266 Std Deviation : 0.029858

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
3-MAR-2006 09:09  chk          6.3367  | | |
2-APR-2006 08:21  chk          6.3966  | | |

```

Quality Assurance Report. Generated 26-MAY-2006 11:32:31.70

QA Filename : \$DISK1:[ALP9.QA]GROUP__1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000812 Std Deviation : 0.000750

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg          0.0020  | | |
4-MAR-2006 07:40  bkg          0.0010  | | |
3-APR-2006 07:30  bkg          0.0000  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001187 Std Deviation : 0.000910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg          0.0010  | | |
4-MAR-2006 07:40  bkg          0.0010  | | |
3-APR-2006 07:30  bkg          0.0020  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000437 Std Deviation : 0.000512

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000937 Std Deviation : 0.000929

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0030	In
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001062 Std Deviation : 0.001340

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	In
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001062 Std Deviation : 0.001526

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000687 Std Deviation : 0.001078

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0030	In

4-MAR-2006 07:40 bkg	0.0000	
3-APR-2006 07:30 bkg	0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000750 Std Deviation : 0.001000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)	Page : 3
--	----------

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0030	In
4-MAR-2006 07:40 bkg	0.0010	
3-APR-2006 07:30 bkg	0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000687 Std Deviation : 0.001014

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0030	In
4-MAR-2006 07:40 bkg	0.0010	
3-APR-2006 07:30 bkg	0.0020	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000187 Std Deviation : 0.000403

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	In
3-APR-2006 07:30	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000937 Std Deviation : 0.001123

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0020	
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001250 Std Deviation : 0.001653

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0060	In
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001250 Std Deviation : 0.001653

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0050	In
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.008124 Std Deviation : 0.009520

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0220	
4-MAR-2006 07:40	bkg		0.0240	
3-APR-2006 07:30	bkg		0.0190	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007749 Std Deviation : 0.008977

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0190	
4-MAR-2006 07:40	bkg		0.0240	
3-APR-2006 07:30	bkg		0.0180	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007374 Std Deviation : 0.008554

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0180	
4-MAR-2006 07:40	bkg		0.0230	
3-APR-2006 07:30	bkg		0.0160	

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0180	
4-MAR-2006 07:40	bkg		0.0230	
3-APR-2006 07:30	bkg		0.0160	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007499 Std Deviation : 0.008914

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0100	
4-MAR-2006 07:40	bkg		0.0090	
3-APR-2006 07:30	bkg		0.0270	In

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005249 Std Deviation : 0.007009

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0080	
4-MAR-2006 07:40	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0220	In

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002000 Std Deviation : 0.002065

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0040			
4-MAR-2006 07:40 bkg	0.0020			
3-APR-2006 07:30 bkg	0.0050			

Quality Assurance Report. Generated 26-MAY-2006 11:30:28.49

QA Filename : \$DISK1:[ALP10.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.310166 Std Deviation : 0.004460

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.3088	
------------------	-----	--	--------	--

2-APR-2006 08:21	chk		0.3105	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.993056 Std Deviation : 0.238145

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		7.0000	
------------------	-----	--	--------	--

2-APR-2006 08:21	chk		7.3333	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 336.510956 Std Deviation : 0.730491

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		337.5063	
2-APR-2006 08:21	chk		337.5312	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.394758 Std Deviation : 0.004326

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				
				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.3923	
2-APR-2006 08:21	chk		0.3954	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 6.460897 Std Deviation : 0.024934

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
3-MAR-2006 09:09  chk                6.4490  | | |
2-APR-2006 08:21  chk                6.4419  | | |

```

Quality Assurance Report. Gencrated 26-MAY-2006 11:30:29.10

QA Filename : \$DISK1:[ALP10.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000760 Std Deviation : 0.000925

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg                0.0010  | | |
4-MAR-2006 07:40  bkg                0.0010  | | |
3-APR-2006 07:30  bkg                0.0020  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000840 Std Deviation : 0.000850

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```

-----
1-MAR-2006 22:01  bkg                0.0010  | | |
4-MAR-2006 07:40  bkg                0.0020  | | |
3-APR-2006 07:30  bkg                0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000360 Std Deviation : 0.000638

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0010	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000800 Std Deviation : 0.001291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0050	Ac
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001240 Std Deviation : 0.001393

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0060	Ac
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001160 Std Deviation : 0.001248

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	In
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000600 Std Deviation : 0.000866

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0020	

4-MAR-2006 07:40 bkg	0.0010			
3-APR-2006 07:30 bkg	0.0000			

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000440 Std Deviation : 0.000768

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)			Page : 3	
--	--	--	----------	--

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0000			
4-MAR-2006 07:40 bkg	0.0010			
3-APR-2006 07:30 bkg	0.0000			

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000400 Std Deviation : 0.000764

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0000			
4-MAR-2006 07:40 bkg	0.0010			
3-APR-2006 07:30 bkg	0.0000			

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001160 Std Deviation : 0.001106

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0030	
------------------	-----	--	--------	--

4-MAR-2006 07:40	bkg		0.0000	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0020	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001800 Std Deviation : 0.001633

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0040	
------------------	-----	--	--------	--

4-MAR-2006 07:40	bkg		0.0010	
------------------	-----	--	--------	--

3-APR-2006 07:30	bkg		0.0000	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002000 Std Deviation : 0.001825

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0040	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002240 Std Deviation : 0.001899

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0030	
4-MAR-2006 07:40	bkg		0.0030	
3-APR-2006 07:30	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.012798 Std Deviation : 0.011785

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0320	
4-MAR-2006 07:40	bkg		0.0290	
3-APR-2006 07:30	bkg		0.0310	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.012159 Std Deviation : 0.011798

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0300	
4-MAR-2006 07:40	bkg		0.0300	
3-APR-2006 07:30	bkg		0.0310	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.011759 Std Deviation : 0.011758

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0290	
4-MAR-2006 07:40	bkg		0.0300	
3-APR-2006 07:30	bkg		0.0310	

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0290	
4-MAR-2006 07:40	bkg		0.0300	
3-APR-2006 07:30	bkg		0.0310	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.009399 Std Deviation : 0.009819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0230	
4-MAR-2006 07:40	bkg		0.0230	
3-APR-2006 07:30	bkg		0.0260	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005639 Std Deviation : 0.006170

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0130	
4-MAR-2006 07:40	bkg		0.0110	
3-APR-2006 07:30	bkg		0.0130	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003080 Std Deviation : 0.003226

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg	0.0060			
4-MAR-2006 07:40 bkg	0.0100	In		
3-APR-2006 07:30 bkg	0.0090			

Quality Assurance Report. Generated 26-MAY-2006 11:30:38.11

QA Filename : \$DISK1:[ALP11.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.426614 Std Deviation : 0.004687

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.4223	
2-APR-2006 08:21	chk		0.4254	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.152778 Std Deviation : 0.273273

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		8.1667	
2-APR-2006 08:21	chk		8.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 341.103607 Std Deviation : 1.413680

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		340.7458	
2-APR-2006 08:21	chk		340.7838	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.428646 Std Deviation : 0.003081

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Mmeasurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

3-MAR-2006 09:09	chk		0.4302	
2-APR-2006 08:21	chk		0.4293	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 6.424412 Std Deviation : 0.044116

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk	6.4450	
2-APR-2006 08:21	chk	6.4337	

Quality Assurance Report. Generated 26-MAY-2006 11:30:38.80

QA Filename : \$DISK1:[ALP11.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000923 Std Deviation : 0.000935

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg	0.0020	
4-MAR-2006 07:40	bkg	0.0010	
3-APR-2006 07:30	bkg	0.0020	
7-APR-2006 06:05	bkg	0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001154 Std Deviation : 0.001155

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg	0.0000	
4-MAR-2006 07:40	bkg	0.0010	
3-APR-2006 07:30	bkg	0.0020	

7-APR-2006 06:05 bkg 0.0010 | | |

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000423 Std Deviation : 0.000703

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000884 Std Deviation : 0.000952

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0010	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001077 Std Deviation : 0.001197

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0000		
4-MAR-2006 07:40	bkg		0.0010		
3-APR-2006 07:30	bkg		0.0020		
7-APR-2006 06:05	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000961 Std Deviation : 0.001182

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-MAR-2006 22:01	bkg		0.0000		
4-MAR-2006 07:40	bkg		0.0010		
3-APR-2006 07:30	bkg		0.0020		
7-APR-2006 06:05	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000923 Std Deviation : 0.001017

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0010		
------------------	-----	--	--------	--	--

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-MAR-2006 07:40	bkg		0.0010		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0020		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0010		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000884 Std Deviation : 0.001032

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0010		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0010		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0010		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0000		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000654 Std Deviation : 0.000977

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0010	
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002038 Std Deviation : 0.001636

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0030	
4-MAR-2006 07:40	bkg		0.0020	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-APR-2006 07:30	bkg		0.0020	
7-APR-2006 06:05	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003923 Std Deviation : 0.004107

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0070	

4-MAR-2006 07:40 bkg	0.0060	
3-APR-2006 07:30 bkg	0.0040	
7-APR-2006 06:05 bkg	0.0050	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004576 Std Deviation : 0.004186

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg			0.0040	
4-MAR-2006 07:40 bkg			0.0060	
3-APR-2006 07:30 bkg			0.0050	
7-APR-2006 06:05 bkg			0.0060	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004845 Std Deviation : 0.004423

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg			0.0040	
4-MAR-2006 07:40 bkg			0.0060	
3-APR-2006 07:30 bkg			0.0060	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

7-APR-2006 06:05 bkg			0.0060	
----------------------	--	--	--------	--

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.015383 Std Deviation : 0.015059

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0370		
4-MAR-2006 07:40	bkg		0.0290		
3-APR-2006 07:30	bkg		0.0340		
7-APR-2006 06:05	bkg		0.0300		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.014998 Std Deviation : 0.014534

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0320		
4-MAR-2006 07:40	bkg		0.0350		
3-APR-2006 07:30	bkg		0.0310		
7-APR-2006 06:05	bkg		0.0360		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.014114 Std Deviation : 0.013859

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0290	
4-MAR-2006 07:40	bkg		0.0350	
3-APR-2006 07:30	bkg		0.0290	
7-APR-2006 06:05	bkg		0.0340	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.011883 Std Deviation : 0.012410

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0230	
4-MAR-2006 07:40	bkg		0.0230	
3-APR-2006 07:30	bkg		0.0300	
7-APR-2006 06:05	bkg		0.0410	In

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.008845 Std Deviation : 0.009018

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0160	
4-MAR-2006 07:40	bkg		0.0180	
3-APR-2006 07:30	bkg		0.0210	
7-APR-2006 06:05	bkg		0.0260	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003500 Std Deviation : 0.003646

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0070	
4-MAR-2006 07:40	bkg		0.0070	
3-APR-2006 07:30	bkg		0.0060	
7-APR-2006 06:05	bkg		0.0140	In

Quality Assurance Report. Generated 26-MAY-2006 11:30:50.86

QA Filename : \$DISK1:[ALP12.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.469119 Std Deviation : 0.032062

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		0.4800	
2-APR-2006 08:21	chk		0.4806	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.354610 Std Deviation : 0.871320

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAR-2006 09:09	chk		6.8333	
2-APR-2006 08:21	chk		7.0000	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 324.825287 Std Deviation : 2.408602

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		327.5369	
------------------	-----	--	----------	--

2-APR-2006 08:21	chk		327.5511	
------------------	-----	--	----------	--

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.363015 Std Deviation : 0.025292

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk		0.3739	
------------------	-----	--	--------	--

2-APR-2006 08:21	chk		0.3771	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.573965 Std Deviation : 0.048627

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

3-MAR-2006 09:09	chk	6.5479	
2-APR-2006 08:21	chk	6.5355	

Quality Assurance Report. Generated 26-MAY-2006 11:30:51.54

QA Filename : \$DISK1:[ALP12.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000490 Std Deviation : 0.000731

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0000		
4-MAR-2006 07:40	bkg		0.0000		
3-APR-2006 07:30	bkg		0.0010		
7-APR-2006 06:05	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000667 Std Deviation : 0.000840

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0010		
4-MAR-2006 07:40	bkg		0.0020		
3-APR-2006 07:30	bkg		0.0000		

7-APR-2006 06:05 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000314 Std Deviation : 0.000547

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg			0.0000	
4-MAR-2006 07:40 bkg			0.0010	
3-APR-2006 07:30 bkg			0.0000	
7-APR-2006 06:05 bkg			0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000431 Std Deviation : 0.000728

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01 bkg			0.0030	Ac
4-MAR-2006 07:40 bkg			0.0000	
3-APR-2006 07:30 bkg			0.0000	
7-APR-2006 06:05 bkg			0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000608 Std Deviation : 0.000896

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	Ac
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000608 Std Deviation : 0.000961

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	Ac
4-MAR-2006 07:40	bkg		0.0000	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000627 Std Deviation : 0.000847

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0010		
------------------	-----	--	--------	--	--

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-MAR-2006 07:40	bkg		0.0000		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0000		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0010		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000451 Std Deviation : 0.000702

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0000		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0010		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0000		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0010		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000412 Std Deviation : 0.000726

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0000	
4-MAR-2006 07:40	bkg		0.0010	
3-APR-2006 07:30	bkg		0.0000	
7-APR-2006 06:05	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000921 Std Deviation : 0.000976

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0030	In
4-MAR-2006 07:40	bkg		0.0020	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-APR-2006 07:30	bkg		0.0010	
7-APR-2006 06:05	bkg		0.0040	Ac

< Pu-239

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001862 Std Deviation : 0.001897

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0040	

4-MAR-2006 07:40	bkg	0.0010	
3-APR-2006 07:30	bkg	0.0030	
7-APR-2006 06:05	bkg	0.0070	In

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002470 Std Deviation : 0.002120

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0040	
4-MAR-2006 07:40	bkg		0.0040	
3-APR-2006 07:30	bkg		0.0040	
7-APR-2006 06:05	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003254 Std Deviation : 0.002791

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0020	
4-MAR-2006 07:40	bkg		0.0070	
3-APR-2006 07:30	bkg		0.0050	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

7-APR-2006 06:05	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.024134 Std Deviation : 0.017402

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0320		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0510		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0440		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0540		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.023350 Std Deviation : 0.016906

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-MAR-2006 22:01	bkg		0.0380		
------------------	-----	--	--------	--	--

4-MAR-2006 07:40	bkg		0.0440		
------------------	-----	--	--------	--	--

3-APR-2006 07:30	bkg		0.0490		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0570		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.022409 Std Deviation : 0.016359

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-MAR-2006 22:01	bkg		0.0370	
4-MAR-2006 07:40	bkg		0.0450	
3-APR-2006 07:30	bkg		0.0470	
7-APR-2006 06:05	bkg		0.0540	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.020056 Std Deviation : 0.015179

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)			Page : 6	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-MAR-2006 22:01	bkg		0.0610	In
4-MAR-2006 07:40	bkg		0.0340	
3-APR-2006 07:30	bkg		0.0380	
7-APR-2006 06:05	bkg		0.0400	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.012077 Std Deviation : 0.009199

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0360	In
4-MAR-2006 07:40	bkg		0.0210	
3-APR-2006 07:30	bkg		0.0250	
7-APR-2006 06:05	bkg		0.0270	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006332 Std Deviation : 0.004994

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

1-MAR-2006 22:01	bkg		0.0140	
4-MAR-2006 07:40	bkg		0.0120	
3-APR-2006 07:30	bkg		0.0080	
7-APR-2006 06:05	bkg		0.0140	

Quality Assurance Report. Generated 26-MAY-2006 11:43:08.53

QA Filename : RDND06::RDND06\$DKA100:[ALP69.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.393997 Std Deviation : 0.005538

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.3837	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 7.694445 Std Deviation : 0.221633

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		7.8333	

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 317.191620 Std Deviation : 0.484522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		317.6140	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.377107 Std Deviation : 0.003381

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.3713	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 7.546013 Std Deviation : 0.051849

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27 chk

7.6101 | | |

Quality Assurance Report.

Generated 26-MAY-2006 11:43:10.74

QA Filename : RDND06::RDND06\$DKA100:[ALP69.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001424 Std Deviation : 0.001814

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0024		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0016		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.002323 Std Deviation : 0.002787

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0020		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0036		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000878 Std Deviation : 0.000802

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0004		
7-APR-2006 06:05	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002515 Std Deviation : 0.003612

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

6-MAR-2006 07:16	bkg		0.0032		
7-APR-2006 06:05	bkg		0.0012		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002969 Std Deviation : 0.003511

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0024		
7-APR-2006 06:05	bkg		0.0024		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002785 Std Deviation : 0.003283

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0024		
7-APR-2006 06:05	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001767 Std Deviation : 0.001459

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0008		
7-APR-2006 06:05	bkg		0.0012		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001167 Std Deviation : 0.000785

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0012	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0020	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000858 Std Deviation : 0.000583

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0008	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0016	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001472 Std Deviation : 0.000923

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg 0.0020 | | |
 7-APR-2006 06:05 bkg 0.0008 | | |

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002115 Std Deviation : 0.000989

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0028	
7-APR-2006 06:05	bkg		0.0024	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002736 Std Deviation : 0.001404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				
				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0048	
7-APR-2006 06:05	bkg		0.0044	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.003405 Std Deviation : 0.001694

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0068	In
7-APR-2006 06:05	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.026230 Std Deviation : 0.012235

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0416	
7-APR-2006 06:05	bkg		0.0536	In

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.026422 Std Deviation : 0.012250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0384	
7-APR-2006 06:05	bkg		0.0516	In

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.024725 Std Deviation : 0.011474

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0364	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0476	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.022318 Std Deviation : 0.010910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0400	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0384	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.019829 Std Deviation : 0.009717

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0368	
7-APR-2006 06:05	bkg		0.0340	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.007428 Std Deviation : 0.003662

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0124	
7-APR-2006 06:05	bkg		0.0156	In

Quality Assurance Report.

Generated 26-MAY-2006 11:43:24.87

QA Filename : RDND06::RDND06\$DKA100:[ALP71.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.370014 Std Deviation : 0.043203

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk		0.3751	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.561111 Std Deviation : 0.507474

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk		8.6667	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 309.601501 Std Deviation : 0.468245

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		309.7699	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.352200 Std Deviation : 0.040793

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.3519	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 6.504378 Std Deviation : 0.037601

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27 chk 6.5186 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:43:27.55

QA Filename : RDND06::RDND06\$DKA100:[ALP71.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000621 Std Deviation : 0.000886

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0008	
7-APR-2006 06:05	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001294 Std Deviation : 0.001193

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0020	
7-APR-2006 06:05	bkg		0.0012	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000556 Std Deviation : 0.000806

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0012	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0004	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000930 Std Deviation : 0.001000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Mcasurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0004	
------------------	-----	--	--------	--

7-APR-2006 06:05	bkg		0.0016	
------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001256 Std Deviation : 0.001002

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0020		
7-APR-2006 06:05	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001223 Std Deviation : 0.000955

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0020		
7-APR-2006 06:05	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000838 Std Deviation : 0.000721

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0020		
7-APR-2006 06:05	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000645 Std Deviation : 0.000703

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg 0.0048 |Ac| |

7-APR-2006 06:05 bkg 0.0008 | | |

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000558 Std Deviation : 0.000622

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg 0.0040 |Ac| |

7-APR-2006 06:05 bkg 0.0008 | | |

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001428 Std Deviation : 0.000797

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg 0.0024 | | |
 7-APR-2006 06:05 bkg 0.0032 |In| |

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001912 Std Deviation : 0.001190

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg			0.0036	
7-APR-2006 06:05 bkg			0.0024	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002594 Std Deviation : 0.001469

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg			0.0052	
7-APR-2006 06:05 bkg			0.0040	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003240 Std Deviation : 0.001817

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0064	
7-APR-2006 06:05	bkg		0.0052	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.025627 Std Deviation : 0.012668

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0452	
7-APR-2006 06:05	bkg		0.0504	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.026275 Std Deviation : 0.012560

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0444	
7-APR-2006 06:05	bkg		0.0484	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.025223 Std Deviation : 0.012071

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0428		
------------------	-----	--	--------	--	--

7-APR-2006 06:05	bkg		0.0468		
------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.023136 Std Deviation : 0.010819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0452	In	
------------------	-----	--	--------	----	--

7-APR-2006 06:05	bkg		0.0480	In	
------------------	-----	--	--------	----	--

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.015349 Std Deviation : 0.007111

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0324	In
7-APR-2006 06:05	bkg		0.0260	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007271 Std Deviation : 0.003448

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0148	In
7-APR-2006 06:05	bkg		0.0148	In

Quality Assurance Report.

Generated 26-MAY-2006 11:43:48.34

QA Filename : RDND06::RDND06\$DKA100:[ALP83.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		178.9082	
9-APR-2006 11:36	chk		178.3849	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		8.5000	
9-APR-2006 11:36	chk		9.0000	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.3185	
9-APR-2006 11:36	chk		0.3167	

-- Multi-Test Full Report --

Description : Efficiency, Po-210

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk	0.3392			
9-APR-2006 11:36	chk	0.3450			

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

5-MAR-2006 13:27	chk	7.2913			
9-APR-2006 11:36	chk	7.2746			

Quality Assurance Report. Generated 26-MAY-2006 11:43:49.27

QA Filename : RDND06::RDND06\$DKA100:[ALP83.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg	0.0028			
10-APR-2006 08:00	bkg	0.0004			

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg	0.0012			
10-APR-2006 08:00	bkg	0.0008			

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0460	
10-APR-2006 08:00	bkg		0.0368	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0460	
10-APR-2006 08:00	bkg		0.0324	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0020	
10-APR-2006 08:00	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0024	
10-APR-2006 08:00	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0036	
10-APR-2006 08:00	bkg		0.0016	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0460	
10-APR-2006 08:00	bkg		0.0396	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0008	
10-APR-2006 08:00	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0000	
10-APR-2006 08:00	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0024			
10-APR-2006 08:00 bkg	0.0016			

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16 bkg			0.0056		
10-APR-2006 08:00 bkg			0.0036		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16 bkg			0.0024		
10-APR-2006 08:00 bkg			0.0016		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16 bkg			0.0032		
10-APR-2006 08:00 bkg			0.0012		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16 bkg	0.0044			
10-APR-2006 08:00 bkg	0.0028			

Quality Assurance Report. Generated 26-MAY-2006 11:43:56.14

QA Filename : RDND06::RDND06\$DKA100:[ALP84.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		177.2086	
9-APR-2006 11:37	chk		177.1626	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		4.5000	
9-APR-2006 11:37	chk		4.5000	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.3416	
9-APR-2006 11:37	chk		0.3382	

-- Multi-Test Full Report --

Description : Efficiency, Po-210

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk	0.3612			
9-APR-2006 11:37	chk	0.3503			

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
5-MAR-2006 13:27	chk		7.2944		
9-APR-2006 11:37	chk		7.3002		

Quality Assurance Report. Generated 26-MAY-2006 11:43:57.06

QA Filename : RDND06::RDND06\$DKA100:[ALP84.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0012		
10-APR-2006 08:00	bkg		0.0004		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0012		
10-APR-2006 08:00	bkg		0.0016		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0464	
10-APR-2006 08:00	bkg		0.0384	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0476	
10-APR-2006 08:00	bkg		0.0412	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0004	
10-APR-2006 08:00	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0016	
10-APR-2006 08:00	bkg		0.0012	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0008	
------------------	-----	--	--------	--

10-APR-2006 08:00	bkg		0.0004	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0496	
------------------	-----	--	--------	--

10-APR-2006 08:00	bkg		0.0456	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0000	
------------------	-----	--	--------	--

10-APR-2006 08:00	bkg		0.0004	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16	bkg		0.0008	
------------------	-----	--	--------	--

10-APR-2006 08:00	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0004			
10-APR-2006 08:00 bkg	0.0008			

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0068			
10-APR-2006 08:00 bkg	0.0064			

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0004			
10-APR-2006 08:00 bkg	0.0008			

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0012			
10-APR-2006 08:00 bkg	0.0004			

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0044	
10-APR-2006 08:00	bkg		0.0036	

Quality Assurance Report.

Generated 26-MAY-2006 11:44:11.16

QA Filename : RDND06::RDND06\$DKA100:[ALP85.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 178.890259 Std Deviation : 0.534097

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
5-MAR-2006 13:27	chk		179.4304		
9-APR-2006 11:37	chk		179.2977		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 9.980816 Std Deviation : 0.428963

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
5-MAR-2006 13:27	chk		9.8333		
9-APR-2006 11:37	chk		10.0000		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.260202 Std Deviation : 0.022388

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.2576	
9-APR-2006 11:37	chk		0.2567	

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.249036 Std Deviation : 0.021703

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.2525	
9-APR-2006 11:37	chk		0.2440	

Quality Assurance Multi-Test Full Report (continued) Page : 2

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.162333 Std Deviation : 0.076961

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk	7.2104			
9-APR-2006 11:37	chk	7.2567			

Quality Assurance Report. Generated 26-MAY-2006 11:44:15.24

QA Filename : RDND06::RDND06\$DKA100:[ALP85.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001866 Std Deviation : 0.001049

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0028			
10-APR-2006 08:01	bkg		0.0036			

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.004722 Std Deviation : 0.002217

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0044			
10-APR-2006 08:01	bkg		0.0056			

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.010538 Std Deviation : 0.004478

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0128		
10-APR-2006 08:01	bkg		0.0140		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.054766 Std Deviation : 0.021127

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					
					Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2006 07:16	bkg		0.0500		
10-APR-2006 08:01	bkg		0.0652		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.050897 Std Deviation : 0.019607

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0436		
10-APR-2006 08:01	bkg		0.0608		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.044150 Std Deviation : 0.017653

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0444		
10-APR-2006 08:01	bkg		0.0376		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.032421 Std Deviation : 0.013521

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0304		
10-APR-2006 08:01	bkg		0.0280		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.016889 Std Deviation : 0.007149

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0228		
10-APR-2006 08:01	bkg		0.0180		

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000633 Std Deviation : 0.000708

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0004		
10-APR-2006 08:01	bkg		0.0004		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001315 Std Deviation : 0.001139

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001718 Std Deviation : 0.001107

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0020	
10-APR-2006 08:01	bkg		0.0024	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.059617 Std Deviation : 0.022734

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0576	
10-APR-2006 08:01	bkg		0.0668	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000803 Std Deviation : 0.000892

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0012	
10-APR-2006 08:01	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000790 Std Deviation : 0.000768

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:16	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001471 Std Deviation : 0.000913

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg	0.0016			
10-APR-2006 08:01 bkg	0.0028			

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.016663 Std Deviation : 0.006737

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg			0.0168			
10-APR-2006 08:01 bkg			0.0224			

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001548 Std Deviation : 0.001004

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:16 bkg			0.0016			
10-APR-2006 08:01 bkg			0.0024			

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001831 Std Deviation : 0.001063

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0036		
------------------	-----	--	--------	--	--

10-APR-2006 08:01	bkg		0.0036		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.013815 Std Deviation : 0.005632

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:16	bkg		0.0156		
------------------	-----	--	--------	--	--

10-APR-2006 08:01	bkg		0.0188		
-------------------	-----	--	--------	--	--

Quality Assurance Report. Generated 26-MAY-2006 11:44:34.83

QA Filename : RDND06::RDND06\$DKA100:[ALP87.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		109.1803	
9-APR-2006 11:37	chk		109.0604	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		9.0000	
9-APR-2006 11:37	chk		8.6667	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
5-MAR-2006 13:27	chk		0.2999	
9-APR-2006 11:37	chk		0.3036	

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

5-MAR-2006 13:27	chk	0.3158	
9-APR-2006 11:37	chk	0.3149	

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

5-MAR-2006 13:27	chk		6.1941	
9-APR-2006 11:37	chk		6.2371	

Quality Assurance Report. Generated 26-MAY-2006 11:44:35.75

QA Filename : RDND06::RDND06\$DKA100:[ALP87.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0040	
10-APR-2006 08:01	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0270	
10-APR-2006 08:01	bkg		0.0220	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0260	
10-APR-2006 08:01	bkg		0.0210	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0290	
10-APR-2006 08:01	bkg		0.0310	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0200	
10-APR-2006 08:01	bkg		0.0150	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0030	
10-APR-2006 08:01	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

6-MAR-2006 07:17 bkg	0.0000			
10-APR-2006 08:01 bkg	0.0000			

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:17 bkg	0.0220			
10-APR-2006 08:01 bkg	0.0220			

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:17 bkg	0.0000			
10-APR-2006 08:01 bkg	0.0000			

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

6-MAR-2006 07:17 bkg	0.0000			
10-APR-2006 08:01 bkg	0.0010			

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0050	
10-APR-2006 08:01	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0000	
10-APR-2006 08:01	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2006 07:17	bkg		0.0040	
10-APR-2006 08:01	bkg		0.0020	

THORIUM

SAMPLE AND QC DATA

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6060336; RTHISO This by ALP
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

✓

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

✓

4.2 Were analysis volumes entered correctly?

Yes No N/A

✓

4.3 Were Yields entered correctly?

Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

✓

5.2 Are all required forms filled out?

Yes No N/A

✓

5.3 Was the correct methodology used?

Yes No N/A

✓

5.4 Was transcription checked?

Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

✓

5.6 Are worksheet entries complete and correct?

Yes No N/A

✓

6.0 Comments on any No response:

See NCM with batch 6110472.

First Level Review

Pam Anderson

Date

4-24-06

SEVERN
TRENT

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6061336

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

See NCR

Second Level Review:

Sheryl A. Adams

Date:

4-28-06

4/14/2006 10:32:58 AM

536403, Brown and Caldwell
Caldwell

Report Due: 03/31/2006

Batch: 6060336 FILTER

SEQ Batch, Test: None

Sample Preparation/Analysis

9N Thlso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET


Balance Id:1120373922








Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: HansenM



Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AA J6B270158-1-SAMP  02/05/2006 06:00	0.833sa	503.56sa	50.06g.in	0.0828g	THTC9385 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
2 HX81Q-1-AA J6B270158-2-SAMP  02/05/2006 06:35	0.833sa	501.73sa	50.10g.in	0.0832g	THTC9386 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
3 HX81R-1-AA J6B270158-3-SAMP  02/05/2006 07:15	0.833sa	500.94sa	50.41g.in	0.0838g	THTC9387 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
4 HX81T-1-AA J6B270158-4-SAMP  02/05/2006 07:45	0.833sa	508.67sa	50.07g.in	0.082g	THTC9388 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
5 HX81V-1-AA J6B270158-5-SAMP  02/05/2006 08:15	0.833sa	501.14sa	50.49g.in	0.0839g	THTC9389 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										
6 HX81V-2-AA J6B270158-5-SAMP  02/05/2006 08:15	0.833sa <i>15.4</i>	501.14sa		0.00E00g <i>0.839</i>	THTC <i>9389</i>					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div> <div style="text-align: right; margin-top: 10px;"> <i>20 min</i> <i>Beta</i> <i>it only</i> </div>										
7 HX81W-1-AA J6B270158-6-SAMP  02/05/2006 08:40	0.833sa	500.55sa	50.15g.in	0.0835g	THTC9390 03/30/06,pd 02/24/06,r					
<div style="display: flex; justify-content: space-between;"> AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta: </div>										

STL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7

ICOC v4.8.20

4/24/2006 4:21:15 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/24/2005, 4/29/2006, Batch: '6060336', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6060336				
AC	CalcC	HansenM	3/20/2006 4:07:18 PM	
SC		wagarr	IsBatched 3/1/2006 4:16:24 PM	ICOC_RADCALC v4.8.18
SC		HansenM	InPrep2 3/20/2006 4:07:18 PM	RICH-RC-5016 REVISION 5
SC		HansenM	Prep2C 3/31/2006 9:19:00 AM	RICH-RC-5016 REVISION 5
SC		ManisD	Sep1C 4/11/2006 9:38:01 AM	RICH-RC-5087 REV 0
SC		FABREM	InSep2 4/12/2006 10:17:41 AM	RICH-RC-5003 REV 6
SC		FABREM	Sep2C 4/12/2006 1:51:32 PM	RICH-RC-5003 REV 6
SC		BlackCL	InCnt1 4/12/2006 1:56:39 PM	RICH-RD-0008 REVISION 4
SC		DAWKINSO	CalcC 4/13/2006 8:15:56 PM	RICH-RD-0008 REVISION 4
SC		BlackCL	CalcC 4/15/2006 7:24:38 AM	RICH-RD-0008 REVISION 4
AC		HansenM	3/20/2006 4:07:26 PM	
AC		HansenM	3/31/2006 9:19:00	
AC		ManisD	4/11/2006 9:38:01	
AC		FABREM	4/12/2006 10:17:41	
AC		FABREM	4/12/2006 1:51:32 PM	
AC		BlackCL	4/12/2006 1:56:39 PM	
AC		DAWKINSO	4/13/2006 8:15:56 PM	
AC		BlackCL	4/15/2006 7:24:38	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

4/24/2006 4:21:14 PM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch Isotope	Rpt Db Id Method	LotSample RTst Qc Analysis Date	Client Id Result	Matrix Cntr Uncert	Received Date Tot Uncert	Sample Date Units	Expected Yield	Volumes
31025	9HX81110	J6B2701588	P 0517	AIR	2/27/2006 8:00:00	2/5/2006 6:15:00 AM		
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.9486E-03	1.059E+00	1.059E+00	5.274E+00	PCI/SA 1.0 1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.5137E+00	1.293E+00	1.298E+00	5.298E+00	PCI/SA 1.0 1.0E+0 3.405E-2
RA-226	BXTE	0	4/10/2006 2:46:00 PM	2.2347E-01	9.499E-02	9.757E-02	2.773E-01	PCI/SA 1.058 8.33E-1 2.493E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.5971E+00	4.447E-01	4.617E-01	1.772E+00	PCI/SA 0.938 1.0E+0 2.493E-1
TH-228	9NS1	0	4/12/2006 8:39:15 PM	-2.0847E-02	2.085E-02	2.09E-02	2.501E-01	PCI/SA 0.949 1.0E+0 3.375E-2
TH-230	9NS1	0	4/12/2006 8:39:15 PM	1.1639E-01	6.72E-02	6.774E-02	1.051E-01	PCI/SA 0.949 1.0E+0 3.375E-2
TH-232	9NS1	0	4/12/2006 8:39:15 PM	1.9398E-02	4.337E-02	4.34E-02	2.327E-01	PCI/SA 0.949 1.0E+0 3.375E-2
U-234	7YSR	0	4/13/2006 7:01:11 PM	-4.2672E-02	3.017E-02	3.053E-02	6.027E-01	PCI/SA 0.922 1.0E+0 3.237E-2
U-235	7YSR	0	4/13/2006 7:01:11 PM	-2.1336E-02	2.134E-02	2.146E-02	5.108E-01	PCI/SA 0.922 1.0E+0 3.237E-2
U-238	7YSR	0	4/13/2006 7:01:11 PM	-4.2672E-02	3.017E-02	3.053E-02	6.027E-01	PCI/SA 0.922 1.0E+0 3.237E-2
31025	9HX81210	J6B2701589	000357	AIR	2/27/2006 8:00:00	2/5/2006 6:05:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.0284E+01	2.198E+00	2.444E+00	5.179E+00	PCI/SA 1.0 1.0E+0 2.07E-2
BETA	BDS8	0	4/5/2006 10:15:47 AM	1.7618E+01	1.728E+00	2.098E+00	5.209E+00	PCI/SA 1.0 1.0E+0 3.295E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	-2.3959E-01	1.359E-01	1.382E-01	6.036E-01	PCI/SA 0.937 8.33E-1 2.48E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	4.4971E+00	8.231E-01	8.706E-01	2.832E+00	PCI/SA 0.572 1.0E+0 2.48E-1
TH-228	9NS1	0	4/12/2006 8:39:54 PM	1.3962E-01	8.061E-02	8.126E-02	1.261E-01	PCI/SA 0.993 1.0E+0 3.283E-2
TH-230	9NS1	0	4/12/2006 8:39:54 PM	4.3303E-02	4.33E-02	4.342E-02	1.174E-01	PCI/SA 0.993 1.0E+0 3.283E-2
TH-232	9NS1	0	4/12/2006 8:39:54 PM	4.3303E-02	4.33E-02	4.342E-02	1.174E-01	PCI/SA 0.993 1.0E+0 3.283E-2
U-234	7YSR	0	4/13/2006 7:01:25 PM	3.7594E-01	1.989E-01	2.029E-01	4.74E-01	PCI/SA 1.108 1.0E+0 3.163E-2
U-235	7YSR	0	4/13/2006 7:01:25 PM	0.0E+00	0.0E+00	1.212E-01	2.681E-01	PCI/SA 1.108 1.0E+0 3.163E-2
U-238	7YSR	0	4/13/2006 7:01:25 PM	7.9127E-02	1.009E-01	1.013E-01	4.74E-01	PCI/SA 1.108 1.0E+0 3.163E-2
31025	9HX81310	J6B27015810	000358	AIR	2/27/2006 8:00:00	2/5/2006 6:40:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	4.1731E+00	1.552E+00	1.612E+00	4.862E+00	PCI/SA 1.0 1.0E+0 2.08E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.6272E+01	1.704E+00	2.031E+00	5.341E+00	PCI/SA 1.0 1.0E+0 3.367E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.6862E-01	1.056E-01	1.092E-01	3.078E-01	PCI/SA 0.985 8.33E-1 2.505E-1
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8241E+00	4.46E-01	4.643E-01	1.638E+00	PCI/SA 0.882 1.0E+0 2.505E-1
TH-228	9NS1	0	4/12/2006 8:40:10 PM	9.2818E-02	8.684E-02	8.711E-02	3.417E-01	PCI/SA 0.952 1.0E+0 3.393E-2
TH-230	9NS1	0	4/12/2006 8:40:10 PM	1.0797E-01	7.786E-02	7.827E-02	2.591E-01	PCI/SA 0.952 1.0E+0 3.393E-2
TH-232	9NS1	0	4/12/2006 8:40:10 PM	0.0E+00	0.0E+00	5.29E-02	1.17E-01	PCI/SA 0.952 1.0E+0 3.393E-2
U-234	7YSR	0	4/13/2006 7:01:39 PM	-1.8302E-02	1.83E-02	1.841E-02	4.378E-01	PCI/SA 0.974 1.0E+0 3.253E-2
U-235	7YSR	0	4/13/2006 7:01:39 PM	-3.6604E-02	2.588E-02	2.618E-02	5.166E-01	PCI/SA 0.974 1.0E+0 3.253E-2
U-238	7YSR	0	4/13/2006 7:01:39 PM	-1.8302E-02	1.83E-02	1.841E-02	4.378E-01	PCI/SA 0.974 1.0E+0 3.253E-2
31025	9HX81410	J6B27015811	000359	AIR	2/27/2006 8:00:00	2/5/2006 7:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	6.8426E+00	1.932E+00	2.058E+00	5.45E+00	PCI/SA 1.0 1.0E+0 2.079E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	1.8892E+01	1.608E+00	2.503E+00	4.713E+00	PCI/SA 1.0 1.0E+0 3.318E-2
RA-226	BXTE	0	4/10/2006 3:20:00 PM	3.0838E-01	1.419E-01	1.458E-01	4.564E-01	PCI/SA 1.111 8.33E-1 2.498E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.2626E+00	4.868E-01	5.105E-01	1.737E+00	PCI/SA 0.811 1.0E+0 2.498E-1
TH-228	9NS1	0	4/12/2006 8:40:29 PM	5.9011E-02	1.182E-01	1.182E-01	5.486E-01	PCI/SA 0.954 1.0E+0 3.404E-2
TH-230	9NS1	0	4/12/2006 8:40:29 PM	4.6719E-01	1.672E-01	1.707E-01	3.297E-01	PCI/SA 0.954 1.0E+0 3.404E-2
TH-232	9NS1	0	4/12/2006 8:40:29 PM	0.0E+00	0.0E+00	6.732E-02	1.49E-01	PCI/SA 0.954 1.0E+0 3.404E-2
U-234	7YSR	0	4/13/2006 7:01:45 PM	1.9364E-01	1.369E-01	1.385E-01	2.624E-01	PCI/SA 1.011 1.0E+0 3.217E-2
U-235	7YSR	0	4/13/2006 7:01:45 PM	-1.9371E-02	1.937E-02	1.948E-02	4.638E-01	PCI/SA 1.011 1.0E+0 3.217E-2
U-238	7YSR	0	4/13/2006 7:01:45 PM	9.6821E-02	9.682E-02	9.739E-02	2.624E-01	PCI/SA 1.011 1.0E+0 3.217E-2
31025	9HX81510	J6B27015812	000360	AIR	2/27/2006 8:00:00	2/5/2006 7:50:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	1.6852E+01	2.628E+00	3.144E+00	5.103E+00	PCI/SA 1.0 1.0E+0 2.093E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.5147E+01	1.852E+00	2.52E+00	5.06E+00	PCI/SA 1.0 1.0E+0 3.357E-2
RA-226	BXTE	0	4/10/2006 3:21:00 PM	5.6304E-01	1.765E-01	1.864E-01	5.117E-01	PCI/SA 1.039 8.33E-1 2.515E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	1.8457E+00	4.531E-01	4.739E-01	1.73E+00	PCI/SA 0.824 1.0E+0 2.515E-1
TH-228	9NS1	0	4/12/2006 8:40:36 PM	6.916E-01	1.786E-01	1.857E-01	1.249E-01	PCI/SA 0.953 1.0E+0 3.378E-2
TH-230	9NS1	0	4/12/2006 8:40:36 PM	3.1663E+00	3.692E-01	4.367E-01	2.055E-01	PCI/SA 0.953 1.0E+0 3.378E-2
TH-232	9NS1	0	4/12/2006 8:40:36 PM	6.0066E-01	1.605E-01	1.665E-01	1.163E-01	PCI/SA 0.953 1.0E+0 3.378E-2

6060336, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	Lot Sample	Client Id	Matrix	Received Date	Sample Date	Expected	Yield	Volumes
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	mqc	Units	
U-234	7YSR	0	4/13/2006 7:02:17 PM	1.2301E+00	3.478E-01	3.722E-01	4.81E-01	PCI/SA	1.102 1.0E+0 3.237E-2
U-235	7YSR	0	4/13/2006 7:02:17 PM	6.5513E-02	9.763E-02	9.788E-02	5.15E-01	PCI/SA	1.102 1.0E+0 3.237E-2
U-238	7YSR	0	4/13/2006 7:02:17 PM	8.5217E-01	2.894E-01	3.036E-01	4.407E-01	PCI/SA	1.102 1.0E+0 3.237E-2
31025	9HX81610		J6B27015813	000361	AIR	2/27/2006 8:00:00	2/5/2006 8:20:00 AM		
ALPHA	BAS7	0	4/7/2006 8:42:10 AM	9.3614E+00	2.111E+00	2.319E+00	4.967E+00	PCI/SA	1.0 1.0E+0 2.09E-2
BETA	BDS8	0	4/5/2006 10:15:50 AM	2.4664E+01	1.871E+00	2.53E+00	5.184E+00	PCI/SA	1.0 1.0E+0 3.3E-2
RA-226	BXTE	0	4/10/2006 3:19:01 PM	2.0856E+00	2.48E-01	3.317E-01	4.022E-01	PCI/SA	1.141 8.33E-1 2.483E-1
RA-228	BXTF	0	4/12/2006 6:43:17 AM	2.1678E+01	1.033E+00	1.637E+00	1.489E+00	PCI/SA	1.008 1.0E+0 2.483E-1
TH-228	9NS1	0	4/12/2006 8:40:56 PM	5.6136E-01	1.892E-01	1.936E-01	3.544E-01	PCI/SA	0.983 1.0E+0 3.285E-2
TH-230	9NS1	0	4/12/2006 8:40:56 PM	2.1995E+00	3.478E-01	3.836E-01	1.49E-01	PCI/SA	0.983 1.0E+0 3.285E-2
TH-232	9NS1	0	4/12/2006 8:40:56 PM	8.2481E-01	2.13E-01	2.215E-01	1.49E-01	PCI/SA	0.983 1.0E+0 3.285E-2
U-234	7YSR	0	4/13/2006 7:02:23 PM	8.281E-01	3.088E-01	3.217E-01	6.158E-01	PCI/SA	0.913 1.0E+0 3.193E-2
U-235	7YSR	0	4/13/2006 7:02:23 PM	0.0E+00	0.0E+00	1.335E-01	2.953E-01	PCI/SA	0.913 1.0E+0 3.193E-2
U-238	7YSR	0	4/13/2006 7:02:23 PM	7.453E-01	2.886E-01	2.998E-01	4.98E-01	PCI/SA	0.913 1.0E+0 3.193E-2
31025	9HX81710		J6B27015814	000362	AIR	2/27/2006 8:00:00	2/5/2006 8:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	1.0892E+01	2.232E+00	2.504E+00	5.119E+00	PCI/SA	1.0 1.0E+0 2.095E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	2.4118E+01	1.885E+00	2.509E+00	5.291E+00	PCI/SA	1.0 1.0E+0 3.384E-2
RA-226	BXTE	0	4/10/2006 3:19:03 PM	1.1391E-01	1.07E-01	1.077E-01	3.869E-01	PCI/SA	0.96 8.33E-1 2.493E-1
RA-228	BXTF	0	4/12/2006 6:43:34 AM	-3.7761E-02	4.38E-01	4.38E-01	2.246E+00	PCI/SA	0.686 1.0E+0 2.493E-1
TH-228	9NS1	0	4/12/2006 8:41:12 PM	1.9168E-01	1.356E-01	1.363E-01	4.703E-01	PCI/SA	0.938 1.0E+0 3.311E-2
TH-230	9NS1	0	4/12/2006 8:41:12 PM	1.1892E-01	8.409E-02	8.455E-02	1.611E-01	PCI/SA	0.938 1.0E+0 3.311E-2
TH-232	9NS1	0	4/12/2006 8:41:12 PM	5.9461E-02	5.946E-02	5.962E-02	1.611E-01	PCI/SA	0.938 1.0E+0 3.311E-2
U-234	7YSR	0	4/13/2006 7:02:35 PM	2.001E+00	4.805E-01	5.279E-01	6.046E-01	PCI/SA	0.918 1.0E+0 3.232E-2
U-235	7YSR	0	4/13/2006 7:02:35 PM	-9.0613E-03	9.061E-03	9.115E-03	4.556E-01	PCI/SA	0.918 1.0E+0 3.232E-2
U-238	7YSR	0	4/13/2006 7:02:35 PM	7.6937E-02	1.146E-01	1.149E-01	6.046E-01	PCI/SA	0.918 1.0E+0 3.232E-2
31025	9HX81810		J6B27015815	000363	AIR	2/27/2006 8:00:00	2/5/2006 6:45:00 AM		
ALPHA	BAS7	0	4/7/2006 11:31:06 AM	-8.6245E-01	7.724E-01	7.776E-01	4.857E+00	PCI/SA	1.0 1.0E+0 2.085E-2
BETA	BDS8	0	4/5/2006 11:54:24 AM	-1.2859E+00	1.219E+00	1.222E+00	5.36E+00	PCI/SA	1.0 1.0E+0 3.447E-2
RA-226	BXTE	0	4/10/2006 3:14:00 PM	1.1151E-01	8.896E-02	8.966E-02	3.131E-01	PCI/SA	1.046 8.33E-1 2.509E-1
RA-228	BXTF	0	4/12/2006 6:43:34 AM	6.1757E-01	3.751E-01	3.758E-01	1.662E+00	PCI/SA	0.937 1.0E+0 2.509E-1
TH-228	9NS1	0	4/13/2006 10:42:31	5.1129E-02	5.113E-02	5.127E-02	1.386E-01	PCI/SA	0.9 1.0E+0 3.325E-2
TH-230	9NS1	0	4/13/2006 10:42:31	0.0E+00	0.0E+00	5.823E-02	1.289E-01	PCI/SA	0.9 1.0E+0 3.325E-2
TH-232	9NS1	0	4/13/2006 10:42:31	0.0E+00	0.0E+00	5.823E-02	1.289E-01	PCI/SA	0.9 1.0E+0 3.325E-2
U-234	7YSR	0	4/13/2006 7:02:45 PM	-8.9073E-03	8.907E-03	8.96E-03	4.484E-01	PCI/SA	0.928 1.0E+0 3.257E-2
U-235	7YSR	0	4/13/2006 7:02:45 PM	0.0E+00	0.0E+00	1.365E-01	3.019E-01	PCI/SA	0.928 1.0E+0 3.257E-2
U-238	7YSR	0	4/13/2006 7:02:45 PM	-8.9073E-03	8.907E-03	8.96E-03	4.484E-01	PCI/SA	0.928 1.0E+0 3.257E-2
31025	9HX81N10		J6B2701581	P 0510	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.1099E+00	1.514E+00	1.53E+00	5.957E+00	PCI/SA	1.0 1.0E+0 2.091E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3188E+01	1.644E+00	1.89E+00	5.408E+00	PCI/SA	1.0 1.0E+0 3.278E-2
RA-226	BXTE	0	4/10/2006 2:53:00 PM	2.6364E-01	1.548E-01	1.569E-01	5.224E-01	PCI/SA	0.993 8.33E-1 2.511E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	7.5195E-01	5.665E-01	5.665E-01	2.508E+00	PCI/SA	0.875 1.0E+0 2.511E-1
TH-228	9NS1	0	4/12/2006 8:39:15 PM	4.5226E-02	9.045E-02	9.051E-02	4.2E-01	PCI/SA	0.978 1.0E+0 3.281E-2
TH-230	9NS1	0	4/12/2006 8:39:15 PM	1.4728E-01	8.675E-02	8.742E-02	2.524E-01	PCI/SA	0.978 1.0E+0 3.281E-2
TH-232	9NS1	0	4/12/2006 8:39:15 PM	0.0E+00	0.0E+00	5.154E-02	1.14E-01	PCI/SA	0.978 1.0E+0 3.281E-2
U-234	7YSR	0	4/13/2006 6:58:37 PM	7.915E-02	1.009E-01	1.013E-01	4.741E-01	PCI/SA	1.048 1.0E+0 3.215E-2
U-235	7YSR	0	4/13/2006 6:58:37 PM	-1.9813E-02	1.981E-02	1.993E-02	4.741E-01	PCI/SA	1.048 1.0E+0 3.215E-2
U-238	7YSR	0	4/13/2006 6:58:37 PM	0.0E+00	0.0E+00	1.212E-01	2.682E-01	PCI/SA	1.048 1.0E+0 3.215E-2
31025	9HX81Q10		J6B2701582	P 0511	AIR	2/27/2006 8:00:00	2/5/2006 6:35:00 AM		
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	2.9199E+00	1.605E+00	1.632E+00	5.973E+00	PCI/SA	1.0 1.0E+0 2.082E-2
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.1516E+01	1.524E+00	1.81E+00	5.034E+00	PCI/SA	1.0 1.0E+0 3.315E-2
RA-226	BXTE	0	4/10/2006 2:51:00 PM	-2.2718E-01	1.371E-01	1.391E-01	6.167E-01	PCI/SA	0.912 8.33E-1 2.502E-1
RA-228	BXTF	0	4/12/2006 6:41:36 AM	1.6354E+00	6.613E-01	6.697E-01	2.815E+00	PCI/SA	0.772 1.0E+0 2.502E-1
TH-228	9NS1	0	4/12/2006 8:39:15 PM	-2.1901E-02	2.19E-02	2.196E-02	2.627E-01	PCI/SA	0.972 1.0E+0 3.318E-2
TH-230	9NS1	0	4/12/2006 8:39:15 PM	-4.0757E-02	2.882E-02	2.898E-02	3.0E-01	PCI/SA	0.972 1.0E+0 3.318E-2

6060336, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date			
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	Wgt	Units	Expected Yield
TH-232	9NS1	0	4/12/2006 8:39:15 PM	2.0379E-02	4.557E-02	4.559E-02	2.445E-01	PCI/SA	0.972
U-234	7YSR	0	4/13/2006 6:59:14 PM	3.799E-01	2.132E-01	2.171E-01	5.965E-01	PCI/SA	0.946
U-235	7YSR	0	4/13/2006 6:59:14 PM	0.0E+00	0.0E+00	1.293E-01	2.86E-01	PCI/SA	0.946
U-238	7YSR	0	4/13/2006 6:59:14 PM	1.6882E-01	1.522E-01	1.533E-01	5.965E-01	PCI/SA	0.946
31025	9HX81R10	J6B2701583	P 0512	AIR	2/27/2006 8:00:00	2/5/2006 7:15:00 AM			
ALPHA	BAS7	0	4/6/2006 6:03:23 PM	4.8606E+00	1.709E+00	1.78E+00	5.252E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:39 AM	1.3284E+01	1.666E+00	1.895E+00	5.53E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:51:00 PM	1.0827E-01	8.15E-02	8.232E-02	2.838E-01	PCI/SA	1.151
RA-228	BXTF	0	4/12/2006 6:41:36 AM	-4.3617E-01	4.783E-01	4.783E-01	2.347E+00	PCI/SA	1.014
TH-228	9NS1	0	4/12/2006 8:39:15 PM	0.0E+00	0.0E+00	8.204E-02	1.815E-01	PCI/SA	0.829
TH-230	9NS1	0	4/12/2006 8:39:15 PM	2.4933E-01	1.247E-01	1.26E-01	1.689E-01	PCI/SA	0.829
TH-232	9NS1	0	4/12/2006 8:39:15 PM	6.2333E-02	6.233E-02	6.25E-02	1.689E-01	PCI/SA	0.829
U-234	7YSR	0	4/13/2006 6:59:20 PM	-4.8988E-02	1.384E-01	1.385E-01	1.005E+00	PCI/SA	0.783
U-235	7YSR	0	4/13/2006 6:59:20 PM	4.8923E-02	1.295E-01	1.296E-01	7.724E-01	PCI/SA	0.783
U-238	7YSR	0	4/13/2006 6:59:20 PM	-9.7911E-02	4.896E-02	5.012E-02	8.405E-01	PCI/SA	0.783
31025	9HX81T10	J6B2701584	P 0513	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	9.6327E+00	2.24E+00	2.454E+00	5.858E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.9108E+01	1.8E+00	2.227E+00	5.406E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:01 PM	2.633E-01	2.287E-01	2.305E-01	8.009E-01	PCI/SA	0.98
RA-228	BXTF	0	4/12/2006 6:42:05 AM	4.913E-02	4.822E-01	4.822E-01	2.32E+00	PCI/SA	0.843
TH-228	9NS1	0	4/12/2006 8:39:15 PM	3.6971E-01	1.531E-01	1.555E-01	3.412E-01	PCI/SA	1.426
TH-230	9NS1	0	4/12/2006 8:39:15 PM	1.3761E+00	2.699E-01	2.881E-01	1.434E-01	PCI/SA	1.426
TH-232	9NS1	0	4/12/2006 8:39:15 PM	3.7049E-01	1.4E-01	1.426E-01	1.434E-01	PCI/SA	1.426
U-234	7YSR	0	4/13/2006 6:59:32 PM	3.773E-01	2.405E-01	2.44E-01	8.1E-01	PCI/SA	0.819
U-235	7YSR	0	4/13/2006 6:59:32 PM	-4.717E-02	3.335E-02	3.375E-02	6.663E-01	PCI/SA	0.819
U-238	7YSR	0	4/13/2006 6:59:32 PM	4.7162E-01	2.689E-01	2.738E-01	8.679E-01	PCI/SA	0.819
31025	9HX81W10	J6B2701586	P 0515	AIR	2/27/2006 8:00:00	2/5/2006 8:40:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	6.5328E+00	1.979E+00	2.091E+00	5.942E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3832E+01	1.591E+00	2.017E+00	5.064E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:51:01 PM	2.3557E+00	2.987E-01	3.921E-01	7.098E-01	PCI/SA	0.934
RA-228	BXTF	0	4/12/2006 6:42:05 AM	1.8877E+01	1.088E+00	1.556E+00	2.545E+00	PCI/SA	0.823
TH-228	9NS1	0	4/12/2006 8:39:15 PM	-2.2164E-02	2.216E-02	2.222E-02	2.659E-01	PCI/SA	0.979
TH-230	9NS1	0	4/12/2006 8:39:15 PM	1.4438E-01	8.504E-02	8.571E-02	2.474E-01	PCI/SA	0.979
TH-232	9NS1	0	4/12/2006 8:39:15 PM	-2.0625E-02	2.062E-02	2.068E-02	2.474E-01	PCI/SA	0.979
U-234	7YSR	0	4/13/2006 7:00:00 PM	0.0E+00	0.0E+00	1.46E-01	3.23E-01	PCI/SA	0.831
U-235	7YSR	0	4/13/2006 7:00:00 PM	0.0E+00	0.0E+00	1.46E-01	3.23E-01	PCI/SA	0.831
U-238	7YSR	0	4/13/2006 7:00:00 PM	9.5343E-02	1.216E-01	1.22E-01	5.71E-01	PCI/SA	0.831
31025	9HX81X10	J6B2701587	P 0516	AIR	2/27/2006 8:00:00	2/5/2006 6:10:00 AM			
ALPHA	BAS7	0	4/6/2006 8:46:58 PM	2.9152E+00	1.602E+00	1.63E+00	5.964E+00	PCI/SA	1.0
BETA	BDS8	0	4/5/2006 9:14:52 AM	1.3292E+01	1.748E+00	1.989E+00	5.916E+00	PCI/SA	1.0
RA-226	BXTE	0	4/10/2006 2:50:00 PM	-1.184E-01	1.327E-01	1.332E-01	5.743E-01	PCI/SA	1.019
RA-228	BXTF	0	4/12/2006 6:42:38 AM	1.8376E+00	4.353E-01	4.603E-01	1.647E+00	PCI/SA	0.913
TH-228	9NS1	0	4/12/2006 8:39:15 PM	0.0E+00	0.0E+00	6.644E-02	1.47E-01	PCI/SA	0.986
TH-230	9NS1	0	4/12/2006 8:39:15 PM	1.0096E-01	7.139E-02	7.177E-02	1.368E-01	PCI/SA	0.986
TH-232	9NS1	0	4/12/2006 8:39:15 PM	0.0E+00	0.0E+00	6.182E-02	1.368E-01	PCI/SA	0.986
U-234	7YSR	0	4/13/2006 7:00:54 PM	0.0E+00	0.0E+00	1.213E-01	2.683E-01	PCI/SA	0.934
U-235	7YSR	0	4/13/2006 7:00:54 PM	0.0E+00	0.0E+00	1.213E-01	2.683E-01	PCI/SA	0.934
U-238	7YSR	0	4/13/2006 7:00:54 PM	-1.9803E-02	1.98E-02	1.992E-02	4.742E-01	PCI/SA	0.934
31025	H0EP81AB	J6C010000336	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM			
TH-228	9NS1	0 B	4/13/2006 10:42:37	3.9889E-03	6.309E-03	6.316E-03	2.937E-02	PCI/SA	0.93
TH-230	9NS1	0 B	4/13/2006 10:42:37	9.2758E-03	6.69E-03	6.722E-03	2.226E-02	PCI/SA	0.93
TH-232	9NS1	0 B	4/13/2006 10:42:37	0.0E+00	0.0E+00	4.545E-03	1.006E-02	PCI/SA	0.93
31025	H0EP81CS	J6C010000336	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 6:00:00 AM			
TH-230	9NS1	0 S	4/13/2006 10:42:38	1.901E+00	9.544E-02	1.666E-01	2.868E-02	PCI/SA	1.7995E+00

6060336, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 14,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 46 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Thlso by ALP			Richland Standard Alplso Wo Blk Subt.											
Calc	S1	AIR	HX81N1AA	TH-228	4.52E-02	(9.05E-02)	U4	PCI/SA	R	1.49E-01	4.20E-01		98%	
Calc	S1	AIR	HX81N1AA	TH-230	1.47E-01	(8.74E-02)		PCI/SA	R	6.92E-02	2.52E-01		98%	
Calc	S1	AIR	HX81N1AA	TH-232	0.00E+00	(5.15E-02)	U4	PCI/SA	R		1.14E-01		98%	
Calc	S1	AIR	HX81Q1AA	TH-228	-2.19E-02	(2.20E-02)	U4	PCI/SA	R	7.21E-02	2.63E-01		97%	
Calc	S1	AIR	HX81Q1AA	TH-230	-4.08E-02	(2.90E-02)	U4	PCI/SA	R	9.48E-02	3.00E-01		97%	
Calc	S1	AIR	HX81Q1AA	TH-232	2.04E-02	(4.56E-02)	U4	PCI/SA	R	6.70E-02	2.44E-01		97%	
Calc	S1	AIR	HX81R1AA	TH-228	0.00E+00	(8.20E-02)	U4	PCI/SA	R		1.82E-01		83%	
Calc	S1	AIR	HX81R1AA	TH-230	2.49E-01	(1.26E-01)		PCI/SA	R		1.69E-01		83%	
Calc	S1	AIR	HX81R1AA	TH-232	6.23E-02	(6.25E-02)	U4	PCI/SA	R		1.69E-01		83%	
Calc	S1	AIR	HX81T1AA	TH-228	3.70E-01	(1.56E-01)		PCI/SA	R	9.36E-02	3.41E-01		143%	
Calc	S1	AIR	HX81T1AA	TH-230	1.38E+00	(2.88E-01)		PCI/SA	R		1.43E-01		143%	
Calc	S1	AIR	HX81T1AA	TH-232	3.70E-01	(1.43E-01)		PCI/SA	R		1.43E-01		143%	
Calc	S1	AIR	HX81V1AA	TH-228	1.31E-01	(9.30E-02)	U4	PCI/SA	R	1.01E-01	3.21E-01		103%	
Calc	S1	AIR	HX81V1AA	TH-230	5.88E-01	(1.64E-01)		PCI/SA	R	6.67E-02	2.43E-01		103%	
Calc	S1	AIR	HX81V1AA	TH-232	1.42E-01	(8.43E-02)		PCI/SA	R	6.67E-02	2.43E-01		103%	
Calc	S1	AIR	HX81W1AA	TH-228	-2.22E-02	(2.22E-02)	U4	PCI/SA	R	7.29E-02	2.66E-01		98%	
Calc	S1	AIR	HX81W1AA	TH-230	1.44E-01	(8.57E-02)		PCI/SA	R	6.79E-02	2.47E-01		98%	
Calc	S1	AIR	HX81W1AA	TH-232	-2.06E-02	(2.07E-02)	U4	PCI/SA	R	6.79E-02	2.47E-01		98%	
Calc	S1	AIR	HX81X1AA	TH-228	0.00E+00	(6.64E-02)	U4	PCI/SA	R		1.47E-01		99%	
Calc	S1	AIR	HX81X1AA	TH-230	1.01E-01	(7.18E-02)	U4	PCI/SA	R		1.37E-01		99%	
Calc	S1	AIR	HX81X1AA	TH-232	0.00E+00	(6.18E-02)	U4	PCI/SA	R		1.37E-01		99%	
Calc	S1	AIR	HX8111AA	TH-228	-2.08E-02	(2.09E-02)	U4	PCI/SA	R	6.86E-02	2.50E-01		95%	
Calc	S1	AIR	HX8111AA	TH-230	1.16E-01	(6.77E-02)		PCI/SA	R		1.05E-01		95%	
Calc	S1	AIR	HX8111AA	TH-232	1.94E-02	(4.34E-02)	U4	PCI/SA	R	6.38E-02	2.33E-01		95%	
Calc	S1	AIR	HX8121AA	TH-228	1.40E-01	(8.13E-02)		PCI/SA	R		1.26E-01		99%	
Calc	S1	AIR	HX8121AA	TH-230	4.33E-02	(4.34E-02)	U4	PCI/SA	R		1.17E-01		99%	
Calc	S1	AIR	HX8121AA	TH-232	4.33E-02	(4.34E-02)	U4	PCI/SA	R		1.17E-01		99%	
Calc	S1	AIR	HX8131AA	TH-228	9.28E-02	(8.71E-02)	U4	PCI/SA	R	1.08E-01	3.42E-01		95%	
Calc	S1	AIR	HX8131AA	TH-230	1.08E-01	(7.83E-02)	U4	PCI/SA	R	7.11E-02	2.59E-01		95%	
Calc	S1	AIR	HX8131AA	TH-232	0.00E+00	(5.29E-02)	U4	PCI/SA	R		1.17E-01		95%	
Calc	S1	AIR	HX8141AA	TH-228	5.90E-02	(1.18E-01)	U4	PCI/SA	R	1.94E-01	5.49E-01		95%	
Calc	S1	AIR	HX8141AA	TH-230	4.67E-01	(1.71E-01)		PCI/SA	R	9.04E-02	3.30E-01		95%	
Calc	S1	AIR	HX8141AA	TH-232	0.00E+00	(6.73E-02)	U4	PCI/SA	R		1.49E-01		95%	
Calc	S1	AIR	HX8151AA	TH-228	6.92E-01	(1.86E-01)		PCI/SA	R		1.25E-01		95%	
Calc	S1	AIR	HX8151AA	TH-230	3.17E+00	(4.37E-01)		PCI/SA	R	4.46E-02	2.06E-01		95%	
Calc	S1	AIR	HX8151AA	TH-232	6.01E-01	(1.67E-01)		PCI/SA	R		1.16E-01		95%	
Calc	S1	AIR	HX8161AA	TH-228	5.61E-01	(1.94E-01)		PCI/SA	R	9.72E-02	3.54E-01		98%	

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC- Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:50
 RADCALC v4.8.18
 STL Richland

Alpha Spec, Thlso by ALP , Results
Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	AIR	HX8161AA	TH-230	2.20E+00	(3.84E-01)		PCI/SA	R		1.49E-01		98%	
Calc	S1	AIR	HX8161AA	TH-232	8.25E-01	(2.21E-01)		PCI/SA	R		1.49E-01		98%	
Calc	S1	AIR	HX8171AA	TH-228	1.92E-01	(1.36E-01)	U4	PCI/SA	R	1.49E-01	4.70E-01		94%	
Calc	S1	AIR	HX8171AA	TH-230	1.19E-01	(8.45E-02)	U4	PCI/SA	R		1.61E-01		94%	
Calc	S1	AIR	HX8171AA	TH-232	5.95E-02	(5.96E-02)	U4	PCI/SA	R		1.61E-01		94%	
Calc	S1	AIR	HX8181AA	TH-228	5.11E-02	(5.13E-02)	U4	PCI/SA	R		1.39E-01		90%	
Calc	S1	AIR	HX8181AA	TH-230	0.00E+00	(5.82E-02)	U4	PCI/SA	R		1.29E-01		90%	
Calc	S1	AIR	HX8181AA	TH-232	0.00E+00	(5.82E-02)	U4	PCI/SA	R		1.29E-01		90%	
Calc	S1	AIR	H0EP81AA	TH-228	3.99E-03	(6.32E-03)	U4	PCI/SA	R	9.28E-03	2.94E-02	B	93%	
Calc	S1	AIR	H0EP81AA	TH-230	9.28E-03	(6.72E-03)	U4	PCI/SA	R	6.10E-03	2.23E-02	B	93%	
Calc	S1	AIR	H0EP81AA	TH-232	0.00E+00	(4.54E-03)	U4	PCI/SA	R		1.01E-02	B	93%	
Calc	S1	AIR	H0EP81AC	TH-228	-5.14E-03	(7.28E-03)	U4	PCI/SA	R	1.69E-02	4.78E-02	S	92%	
Calc	S1	AIR	H0EP81AC	TH-230	1.90E+00	(1.67E-01)		PCI/SA	R	7.87E-03	2.87E-02	S	92%	106%
Calc	S1	AIR	H0EP81AC	TH-232	0.00E+00	(5.86E-03)	U4	PCI/SA	R		1.30E-02	S	92%	

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC- Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 2

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:68
 RADCALC v4.8.18
 STL Richland

Batch Nbr: 6060336

Alpha Spec, This by ALP , Calculated Results
Detailed Report

4/15/2006 7:13:49 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
1	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81N1AA	PCI/SA		02/05/06 06:00	04/12/06 20:39		1		1.00 Sa					
536403,P 0510							J6B270158-1 v4.8.18	AIR				682.55 Alq		0.08281 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228		3	4	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0683E+00	
				499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
1	04/12/06 16:29	TH-230		4	1	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
2	04/12/06 16:29	TH-232		0	0	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
3	04/12/06 14:18	TH-234		6011	640	GPC30A	COP	Y	N	4.4818E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(6.723E-03)						(0.000E+00)	12.075785		
Sq	Calc	Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	0.045226	U4	2.00220E-03	0.007783	0.007783		1.00 Sa	98%			0.419954					
				(0.090509)		(4.0043E-03)	(0.015569)	(0.015569)		(0.027064)				0.148786					
	04/13/06	TH-230	R	0.147279		7.00749E-03	0.027076	0.027076		1.00 Sa	98%			0.252394					
				(0.087425)		(4.1275E-03)	(0.015998)	(0.015998)		(0.027064)				0.06922					
	04/13/06	TH-232	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00		1.00 Sa	98%			0.114036					
				(0.051537)		(0.0000E+00)	(0.009474)	(0.009474)		(0.027064)									
	04/13/06	TH-234	R	3632.224478		2.99270E+02	667.745102	667.745102		1.00 Sa	98%								
				(218.697412)		(3.8769E+00)	(13.234438)	(13.234438)		(0.027064)									

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
2	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81Q1AA	PCI/SA		02/05/06 06:35	04/12/06 20:39		1		1.00 Sa					
536403,P 0511							J6B270158-2 v4.8.18	AIR				684.05 Alq		0.083179 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228		0	1	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0683E+00	
				499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
1	04/12/06 16:29	TH-230		0	2	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
2	04/12/06 16:29	TH-232		1	1	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
3	04/12/06 14:18	TH-234		6106	767	GPC30B	COP	Y	N	4.5684E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(7.492E-03)						(0.000E+00)	12.022294		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
 Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2

RADCALC v4.8.18

STL Richland

P-0510

75

P-0511

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:49 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	-0.021901 (0.02196)	U4	-1.00105E-03 (1.0011E-03)	-0.003786 (0.00379)	-0.003786 (0.00379)	1.00 Sa (0.027064)	97%			0.262726 0.072054		
04/13/06	TH-230	R	-0.040757 (0.028976)	U4	-2.00210E-03 (1.4157E-03)	-0.007526 (0.005334)	-0.007526 (0.005334)	1.00 Sa (0.027064)	97%			0.299973 0.094816		
04/13/06	TH-232	R	0.020379 (0.045593)	U4	1.00108E-03 (2.2384E-03)	0.003763 (0.008416)	0.003763 (0.008416)	1.00 Sa (0.027064)	97%			0.244463 0.067045		
04/13/06	TH-234	R	3600.906337 (218.052388)		3.03766E+02 (3.9074E+00)	664.933007 (13.859106)	664.933007 (13.859106)	1.00 Sa (0.027064)	97%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81R1AA	PCI/SA		02/05/06 07:15	04/12/06 20:39		1		1.00 Sa	
536403,P 0512					J6B270158-3 v4.8.18		AIR					687.30 Alq		0.083825 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0682E+00	
1	04/12/06 16:29	TH-230	4	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00	
2	04/12/06 16:29	TH-232	1	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00	
3	04/12/06 14:18	TH-234	5115 20	746 500	GPC30C	COP	Y	N	4.4643E-01 (6.696E-03)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	0.00E00 (0.082043)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.014293)	0.00E00 (0.014293)	1.00 Sa (0.027064)	83%			0.181538		
04/13/06	TH-230	R	0.249334 (0.12602)		8.00854E-03 (4.0043E-03)	0.046399 (0.023302)	0.046399 (0.023302)	1.00 Sa (0.027064)	83%			0.168924		
04/13/06	TH-232	R	0.062333 (0.062503)	U4	2.00214E-03 (2.0021E-03)	0.0116 (0.011613)	0.0116 (0.011613)	1.00 Sa (0.027064)	83%			0.168924		
04/13/06	TH-234	R	3060.496301 (185.035182)		2.54258E+02 (3.5764E+00)	569.536097 (11.711562)	569.536097 (11.711562)	1.00 Sa (0.027064)	83%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81T1AA	PCI/SA		02/05/06 07:45	04/12/06 20:39			1	1.00 Sa				
536403,P 0513					J6B270158-4 v4.8.18		AIR					684.05 Alq		0.081995 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	7	1	ALP174	COP	N	N	2.0781E-01		N	143%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			499.4666666	998.95			Y		(6.234E-03)			5%			(0.000E+00)	12.195891		

Batch Nbr: 6060336										Alpha Spec, Thiso by ALP , Calculated Results										4/15/2006 7:13:50 AM		
1	04/12/06 16:29	TH-230	26	0	ALP174 COP	N	N	2.0781E-01	N	143%	N	1.0000E+00	4.5045E-01	1.0000E+00								
			499.4666666	998.95		Y		(6.234E-03)		5%		(0.000E+00)	12.195891									
2	04/12/06 16:29	TH-232	7	0	ALP174 COP	N	N	2.0781E-01	N	143%	N	1.0000E+00	4.5045E-01	1.0000E+00								
			499.4666666	998.95		Y		(6.234E-03)		5%		(0.000E+00)	12.195891									
4	04/12/06 14:18	TH-234	8727	614	GPC30D COP	Y	N	4.4610E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00								
			20	500		Y		(6.691E-03)				(0.000E+00)	12.195891									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC								
	04/13/06	TH-228	R	0.36971		1.30139E-02	0.063001	0.063001	1.00 Sa	143%		0.341158										
				(0.155529)		(5.3909E-03)	(0.02626)	(0.02626)	(0.027064)			0.093564										
	04/13/06	TH-230	R	1.376108		5.20555E-02	0.250491	0.250491	1.00 Sa	143%		0.143433										
				(0.288111)		(1.0209E-02)	(0.050474)	(0.050474)	(0.027064)													
	04/13/06	TH-232	R	0.370491		1.40149E-02	0.06744	0.06744	1.00 Sa	143%		0.143433										
				(0.142641)		(5.2972E-03)	(0.02568)	(0.02568)	(0.027064)													
	04/13/06	TH-234	R	5358.447032		4.35122E+02	975.391168	975.391168	1.00 Sa	143%												
				(320.286092)		(4.6712E+00)	(17.991871)	(17.991871)	(0.027064)													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol							
5	Calc	S1	AIR	*STLE	AlpisoWoBS	HX81V1AA	PCI/SA		02/05/06 08:15	04/12/06 20:39			1	1.00 Sa								
	536403.P	0514			J6B270158-5 v4.8.18		AIR					623.26 Aliq		0.083925 Sa								
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn				
0	04/12/06 16:29	TH-228	4	2	ALP175 COP	N	N	2.6497E-01			N	103%	N		1.0000E+00	4.5045E-01	1.0682E+00					
			499.4666666	998.95			Y		(7.949E-03)			4%			(0.000E+00)	11.915402						
1	04/12/06 16:29	TH-230	15	1	ALP175 COP	N	N	2.6497E-01			N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			499.4666666	998.95			Y		(7.949E-03)			4%			(0.000E+00)	11.915402						
2	04/12/06 16:29	TH-232	4	1	ALP175 COP	N	N	2.6497E-01			N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			499.4666666	998.95			Y		(7.949E-03)			4%			(0.000E+00)	11.915402						
3	04/14/06 22:02	TH-234	5777	669	GPC30A COP	Y	N	4.4818E-01			N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			20	500		Y			(6.723E-03)						(0.000E+00)	11.915402						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC								
	04/15/06	TH-228	R	0.130748	U4	6.00644E-03	0.022805	0.022805	1.00 Sa	103%		0.320764										
				(0.092953)		(4.2472E-03)	(0.016161)	(0.016161)	(0.027064)			0.101388										
	04/15/06	TH-230	R	0.588056		2.90310E-02	0.109563	0.109563	1.00 Sa	103%		0.243253										
				(0.164198)		(7.8186E-03)	(0.029951)	(0.029951)	(0.027064)			0.066713										
	04/15/06	TH-232	R	0.141945		7.00749E-03	0.026446	0.026446	1.00 Sa	103%		0.243253										
				(0.084259)		(4.1275E-03)	(0.015627)	(0.015627)	(0.027064)			0.066713										
	04/15/06	TH-234	R	3443.172581		2.87512E+02	641.510108	641.510108	1.00 Sa	103%												
				(207.512563)		(3.8007E+00)	(12.826151)	(12.826151)	(0.027064)													

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:50 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81W1AA	PCI/SA		02/05/06 08:40	04/12/06 20:39		1		1.00 Sa				
536403,P 0515					J6B270158-6 v4.8.18		AIR					684.55 Alq		0.083458 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
1	04/12/06 16:29	TH-230	4	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
2	04/12/06 16:29	TH-232	0	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
3	04/12/06 14:43	TH-234	6152	767	GPC30B	COP	Y	N	4.5684E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(7.492E-03)						(0.000E+00)	11.982061		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	-0.022164	U4	-1.00105E-03	-0.003844	-0.003844	1.00 Sa	98%		0.265883						
				(0.022224)		(1.0011E-03)	(0.003849)	(0.003849)	(0.027064)			0.07292						
	04/13/06	TH-230	R	0.144377		7.00749E-03	0.02675	0.02675	1.00 Sa	98%		0.247422						
				(0.085707)		(4.1275E-03)	(0.015807)	(0.015807)	(0.027064)			0.067857						
	04/13/06	TH-232	R	-0.020625	U4	-1.00105E-03	-0.003821	-0.003821	1.00 Sa	98%		0.247422						
				(0.020681)		(1.0011E-03)	(0.003826)	(0.003826)	(0.027064)			0.067857						
	04/13/06	TH-234	R	3616.029252		3.06066E+02	669.967625	669.967625	1.00 Sa	98%								
				(218.930826)		(3.9221E+00)	(13.94394)	(13.94394)	(0.027064)									

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
7	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81X1AA	PCI/SA		02/05/06 06:10	04/12/06 20:39		1		1.00 Sa					
536403,P 0516					J6B270158-7 v4.8.18		AIR					684.05 Alq		0.083406 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/12/06 16:29	TH-228	0 ✓	0 ✓	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0683E+00	
				499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
1		04/12/06 16:29	TH-230	2	0	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
2		04/12/06 16:29	TH-232	0	0	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
4		04/12/06 14:43	TH-234	6052	746	GPC30C	COP	Y	N	4.4643E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20 ✓	500 ✓			Y		(6.696E-03)						(0.000E+00)	11.989485		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
 Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:50 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	0.00E00 (0.066442)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.011516)	0.00E00 (0.011516)	1.00 Sa (0.027064)	99%			0.147017		
04/13/06	TH-230	R	0.100956 (0.071773)	U4	4.00427E-03 (2.8314E-03)	0.018693 (0.013247)	0.018693 (0.013247)	1.00 Sa (0.027064)	99%			0.136795		
04/13/06	TH-232	R	0.00E00 (0.061822)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.011447)	0.00E00 (0.011447)	1.00 Sa (0.027064)	99%			0.136795		
04/13/06	TH-234	R	3642.638179 (219.296963)		3.01108E+02 (3.8901E+00)	674.479762 (13.352469)	674.479762 (13.352469)	1.00 Sa (0.027064)	99%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8111AA	PCI/SA		02/05/06 06:15	04/12/06 20:39			1	1.00 Sa	
536403,P 0517					J6B270158-8 v4.8.18	AIR						683.30 Alq		0.083747 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	1	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0683E+00	
1	04/12/06 16:29	TH-230	3	0	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00	
2	04/12/06 16:29	TH-232	1	1	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00	
3	04/12/06 14:43	TH-234	5807 20	614 500	GPC30D	COP	Y	N	4.4610E-01 (6.691E-03)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	-0.020847 (0.020903)	U4	-1.00105E-03 (1.0011E-03)	-0.003628 (0.003632)	-0.003628 (0.003632)	1.00 Sa (0.027064)	95%			0.250083 0.068586		
04/13/06	TH-230	R	0.116386 (0.067741)		6.00641E-03 (3.4678E-03)	0.021638 (0.012534)	0.021638 (0.012534)	1.00 Sa (0.027064)	95%			0.105136		
04/13/06	TH-232	R	0.019398 (0.043398)	U4	1.00108E-03 (2.2384E-03)	0.003606 (0.008066)	0.003606 (0.008066)	1.00 Sa (0.027064)	95%			0.232696 0.063818		
04/13/06	TH-234	R	3486.010149 (210.064037)		2.89122E+02 (3.8105E+00)	648.110289 (12.941146)	648.110289 (12.941146)	1.00 Sa (0.027064)	95%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
9	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8121AA	PCI/SA		02/05/06 06:05	04/12/06 20:39			1	1.00 Sa					
536403.000357					J6B270158-9 v4.8.18	AIR						684.55 Alq		0.08283 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/12/06 16:29	TH-228	3	0	ALP113	COP	N	N	2.5291E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0683E+00	
				500.0333333	1000.1			Y		(7.587E-03)			4%			(0.000E+00)	12.072857		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
 Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

450-79

000357

Batch Nbr: 6060336														Alpha Spec, Thlso by ALP , Calculated Results										4/15/2006 7:13:50 AM		
1	04/12/06 16:29	TH-230	1	0	ALP113 COP	N	N	2.5291E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			500.0333333	1000.1		Y		(7.587E-03)		4%		(0.000E+00)	12.072857													
2	04/12/06 16:29	TH-232	1	0	ALP113 COP	N	N	2.5291E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			500.0333333	1000.1		Y		(7.587E-03)		4%		(0.000E+00)	12.072857													
3	04/12/06 15:07	TH-234	6119	640	GPC30A COP	Y	N	4.4818E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			20	500		Y		(6.723E-03)				(0.000E+00)	12.072857													
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	0.139618 (0.081262)		5.99960E-03 (3.4639E-03)	0.024033 (0.013921)	0.024033 (0.013921)	1.00 Sa (0.027064)	99%		0.126122														
	04/13/06	TH-230	R	0.043303 (0.043421)	U4	1.99987E-03 (1.9999E-03)	0.007963 (0.007972)	0.007963 (0.007972)	1.00 Sa (0.027064)	99%		0.117352														
	04/13/06	TH-232	R	0.043303 (0.043421)	U4	1.99987E-03 (1.9999E-03)	0.007963 (0.007972)	0.007963 (0.007972)	1.00 Sa (0.027064)	99%		0.117352														
	04/13/06	TH-234	R	3696.867321 (222.497792)		3.04670E+02 (3.9115E+00)	679.793833 (13.42191)	679.793833 (13.42191)	1.00 Sa (0.027064)	99%																
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
10	Calc	S1	AIR	*STLE	AlpIsoWoBS	HX8131AA	PCI/SA		02/05/06 06:40	04/12/06 20:40			1	1.00 Sa												
536403.000358					J6B270158-10 v4.8.18		AIR					685.30 Alq		0.083932 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/12/06 16:30	TH-228	3	2	ALP114 COP	N	N	2.6103E-01			N	95%	N		1.0000E+00	4.5045E-01	1.0683E+00									
			500.1833333	1000.0666		Y		(7.831E-03)				3%			(0.000E+00)	11.914415										
1	04/12/06 16:30	TH-230	3	1	ALP114 COP	N	N	2.6103E-01			N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			500.1833333	1000.0666		Y		(7.831E-03)				3%			(0.000E+00)	11.914415										
2	04/12/06 16:30	TH-232	0	0	ALP114 COP	N	N	2.6103E-01			N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			500.1833333	1000.0666		Y		(7.831E-03)				3%			(0.000E+00)	11.914415										
3	04/12/06 15:07	TH-234	5990	767	GPC30B COP	Y	N	4.5684E-01			N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00									
			20	500		Y		(7.492E-03)							(0.000E+00)	11.914415										
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	0.092818 (0.087111)	U4	3.99793E-03 (3.7404E-03)	0.01619 (0.015166)	0.01619 (0.015166)	1.00 Sa (0.027064)	95%		0.341653 0.107997														
	04/13/06	TH-230	R	0.107967 (0.078271)	U4	4.99787E-03 (3.6043E-03)	0.020117 (0.014539)	0.020117 (0.014539)	1.00 Sa (0.027064)	95%		0.259074 0.071057														
	04/13/06	TH-232	R	0.00E00 (0.052896)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.009856)	0.00E00 (0.009856)	1.00 Sa (0.027064)	95%		0.117043														
	04/13/06	TH-234	R	3500.457078 (212.063214)		2.97966E+02 (3.8702E+00)	652.237012 (13.645054)	652.237012 (13.645054)	1.00 Sa (0.027064)	95%																
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																										
Page 6													RecCnt:11			RADCALC v4.8.18										
																STL Richland										

STL RICHLAND

000359

81

000360

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:51 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
11	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8141AA	PCI/SA		02/05/06 07:20	04/12/06 20:40			1	1.00 Sa					
				J6B270158-11 v4.8.18				AIR					688.54 Aliq	0.084039 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/12/06 16:30	TH-228	3	4	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0682E+00	
				500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
1		04/12/06 16:30	TH-230	9	1	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
2		04/12/06 16:30	TH-232	0	0	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
3		04/12/06 15:07	TH-234	5894	746	GPC30C	COP	Y	N	4.4643E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(6.696E-03)						(0.000E+00)	11.899177		
Sq	Calc	Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	0.059011	U4		1.99674E-03	0.010306	0.010306	1.00 Sa	95%			0.548625					
				(0.118234)			(3.9980E-03)	(0.020642)	(0.020642)	(0.027064)				0.194388					
	04/13/06	TH-230	R	0.467192			1.69887E-02	0.087163	0.087163	1.00 Sa	95%			0.32973					
				(0.17068)			(6.0790E-03)	(0.031455)	(0.031455)	(0.027064)				0.090441					
	04/13/06	TH-232	R	0.00E00	U4		0.00000E+00	0.00E00	0.00E00	1.00 Sa	95%			0.148956					
				(0.067319)			(0.0000E+00)	(0.012559)	(0.012559)	(0.027064)									
	04/13/06	TH-234	R	3520.350857			2.93208E+02	656.783818	656.783818	1.00 Sa	95%								
				(212.066988)			(3.8390E+00)	(13.076925)	(13.076925)	(0.027064)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
12	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8151AA	PCI/SA		02/05/06 07:50	04/12/06 20:40			1	1.00 Sa					
				J6B270158-12 v4.8.18				AIR					685.55 Aliq	0.083782 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/12/06 16:30	TH-228	15	0	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0682E+00	
				500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
1		04/12/06 16:30	TH-230	74	1	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
2		04/12/06 16:30	TH-232	14	0	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
3		04/12/06 15:07	TH-234	5853	614	GPC30D	COP	Y	N	4.4610E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(6.691E-03)						(0.000E+00)	11.935713		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:12		RADCALC v4.8.18		
Page 7																	STL Richland		

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:51 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	0.691604 (0.185701)	2.99930E-02 (7.7442E-03)		0.120423 (0.031601)	0.120423 (0.031601)	1.00 Sa (0.027064)	95%			0.12495		
04/13/06	TH-230	R	3.166322 (0.436723)	1.47565E-01 (1.7205E-02)		0.588925 (0.074007)	0.588925 (0.074007)	1.00 Sa (0.027064)	95%			0.205501 0.044642		
04/13/06	TH-232	R	0.600658 (0.166522)	2.79935E-02 (7.4816E-03)		0.11172 (0.030314)	0.11172 (0.030314)	1.00 Sa (0.027064)	95%			0.11627		
04/13/06	TH-234	R	3512.247148 (211.604935)	2.91422E+02 (3.8256E+00)		653.266084 (13.021551)	653.266084 (13.021551)	1.00 Sa (0.027064)	95%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8161AA	PCI/SA		02/05/06 08:20	04/12/06 20:40			1	1.00 Sa	
536403.000361					J6B270158-13 v4.8.18		AIR					685.05 Aliq		0.082848 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:30	TH-228	10	1	ALP119	COP	N	N	2.0125E-01 (5.037E-03)		N	98% 4%	N		1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0682E+00	
1	04/12/06 16:30	TH-230	40	0	ALP119	COP	N	N	2.0125E-01 (5.037E-03)		N	98% 4%	N		1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00	
2	04/12/06 16:30	TH-232	15	0	ALP119	COP	N	N	2.0125E-01 (5.037E-03)		N	98% 4%	N		1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00	
3	04/12/06 15:29	TH-234	6059	640	GPC30A	COP	Y	N	4.4818E-01 (5.723E-03)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC
04/13/06	TH-228	R	0.561361 (0.193649)	1.89980E-02 (6.4025E-03)		0.096657 (0.032887)	0.096657 (0.032887)	1.00 Sa (0.027064)	98%			0.35444 0.097209		
04/13/06	TH-230	R	2.199492 (0.383645)	7.99920E-02 (1.2648E-02)		0.404537 (0.066707)	0.404537 (0.066707)	1.00 Sa (0.027064)	98%			0.149016		
04/13/06	TH-232	R	0.824809 (0.221459)	2.99970E-02 (7.7452E-03)		0.151701 (0.039808)	0.151701 (0.039808)	1.00 Sa (0.027064)	98%			0.149016		
04/13/06	TH-234	R	3659.686121 (220.310104)	3.01670E+02 (3.8923E+00)		673.100094 (13.317782)	673.100094 (13.317782)	1.00 Sa (0.027064)	98%					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
14	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8171AA	PCI/SA		02/05/06 08:45	04/12/06 20:41			1	1.00 Sa				
536403.000362					J6B270158-14 v4.8.18		AIR					682.80 Aliq		0.083106 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:31	TH-228	4	2	ALP120	COP	N	N	1.9421E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			500.1666666	1000.0666			Y		(5.826E-03)			3%			(0.000E+00)	12.032865		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 8

RecCnt:14

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

STL Richland

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

136000

82

000362

Batch Nbr: 6060336															Alpha Spec, Thiso by ALP , Calculated Results										4/15/2006 7:13:51 AM	
1	04/12/06 16:31	TH-230	2	0	ALP120 COP	N	N	1.9421E-01	N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			500.1666666	1000.0666		Y		(5.826E-03)		3%		(0.000E+00)	12.032865													
2	04/12/06 16:31	TH-232	1	0	ALP120 COP	N	N	1.9421E-01	N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			500.1666666	1000.0666		Y		(5.826E-03)		3%		(0.000E+00)	12.032865													
3	04/12/06 15:29	TH-234	5885	767	GPC30B COP	Y	N	4.5684E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00												
			20	500		Y		(7.492E-03)				(0.000E+00)	12.032865													
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	0.191675	U4	5.99747E-03	0.033106	0.033106	1.00 Sa	94%		0.470325														
				(0.136291)		(4.2414E-03)	(0.023465)	(0.023465)	(0.027064)			0.14867														
	04/13/06	TH-230	R	0.118922	U4	3.99867E-03	0.02194	0.02194	1.00 Sa	94%		0.161139														
				(0.08455)		(2.8275E-03)	(0.015549)	(0.015549)	(0.027064)																	
	04/13/06	TH-232	R	0.059461	U4	1.99933E-03	0.01097	0.01097	1.00 Sa	94%		0.161139														
				(0.059623)		(1.9993E-03)	(0.010983)	(0.010983)	(0.027064)																	
	04/13/06	TH-234	R	3472.968385		2.92716E+02	640.744948	640.744948	1.00 Sa	94%																
				(210.485144)		(3.8361E+00)	(13.451143)	(13.451143)	(0.027064)																	
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
15	Calc	S1	AIR	*STLE	AlpisoWoBS	HX8181AA	PCI/SA		02/05/06 06:45	04/13/06 10:42			1	1.00 Sa												
	536403.000363				J6B270158-15 v4 8.18		AIR					684.30 Alq		0.083252 Sa												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Insir	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/13/06 06:32	TH-228	1	0	ALP113 COP	N	N	2.5291E-01			N	90%	N	1.0000E+00	4.5045E-01	1.0689E+00										
			500.1833333	1000.1		Y		(7.587E-03)				3%		(0.000E+00)	12.011754											
1	04/13/06 06:32	TH-230	0	0	ALP113 COP	N	N	2.5291E-01			N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00										
			500.1833333	1000.1		Y		(7.587E-03)				3%		(0.000E+00)	12.011754											
2	04/13/06 06:32	TH-232	0	0	ALP113 COP	N	N	2.5291E-01			N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00										
			500.1833333	1000.1		Y		(7.587E-03)				3%		(0.000E+00)	12.011754											
3	04/12/06 15:29	TH-234	5526	746	GPC30C COP	Y	N	4.4643E-01			N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00										
			20	500		Y		(6.696E-03)						(0.000E+00)	12.011754											
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	0.051129	U4	1.99927E-03	0.008841	0.008841	1.00 Sa	90%		0.13856														
				(0.051268)		(1.9993E-03)	(0.008851)	(0.008851)	(0.027064)																	
	04/13/06	TH-230	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	90%		0.128855														
				(0.058234)		(0.0000E+00)	(0.010763)	(0.010763)	(0.027064)																	
	04/13/06	TH-232	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	90%		0.128855														
				(0.058234)		(0.0000E+00)	(0.010763)	(0.010763)	(0.027064)																	
	04/13/06	TH-234	R	3330.650062		2.74808E+02	615.56795	615.56795	1.00 Sa	90%																
				(200.958275)		(3.7173E+00)	(12.433445)	(12.433445)	(0.027064)																	
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																										
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration																										
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																										
Page 9													RecCnt:16		RADCALC v4.8.18											
STL Richland																										

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results

4/15/2006 7:13:51 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
16	Calc	S1	AIR	*STLE	AlpIsoWoBS	H0EP81AA	PCI/SA	B	02/05/06 06:00	04/13/06 10:42			1	1.00 Sa				
0,INTRA-LAB BLANK																		
					J6C010000-336		AIR					684.05 Alq		1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 06:32	TH-228	2	2	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0689E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
1	04/13/06 06:32	TH-230	3	1	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
2	04/13/06 06:32	TH-232	0	0	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
3	04/12/06 15:29	TH-234	5699	614	GPC30D	COP	Y	N	4.4610E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.691E-03)						(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	0.003989	U4	1.99853E-03	0.008284	0.008284	1.00 Sa	93%		0.029371						
				(0.006316)		(3.1612E-03)	(0.01311)	(0.01311)	(0.017321)			0.009284						
	04/13/06	TH-230	R	0.009276	U4	4.99767E-03	0.020592	0.020592	1.00 Sa	93%		0.022258						
				(0.006722)		(3.6042E-03)	(0.014882)	(0.014882)	(0.017321)			0.006105						
	04/13/06	TH-232	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	93%		0.010056						
				(0.004545)		(0.0000E+00)	(0.010089)	(0.010089)	(0.017321)									
	04/13/06	TH-234	R	286.488623		2.83722E+02	636.00538	636.00538	1.00 Sa	93%								
				(16.211363)		(3.7749E+00)	(12.752219)	(12.752219)	(0.017321)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
17	Calc	S1	AIR	*STLE	AlpIsoWoBS	H0EP81AC	PCI/SA	S	02/05/06 06:00	04/13/06 10:42			1	1.00 Sa				
0,INTRA-LAB CHECK																		
					J6C010000-336		AIR					3.9950		1.00 Sa				
												359.37 Alq		1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 06:32	TH-228	1	4	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0689E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
1	04/13/06 06:32	TH-230	398	1	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
2	04/13/06 06:32	TH-232	0	0	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
3	04/12/06 16:13	TH-234	2995	640	GPC30A	COP	Y	N	4.4818E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.723E-03)						(0.000E+00)	1.00		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLCc - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 10

RecCnt:17

RADCALC v4.8.18

STL Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 10

RecCnt:17

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

STL Richland

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP					, Calculated Results					4/15/2006 7:13:52 AM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC	
04/13/06	TH-228	R	-0.005143 (0.007282)		U4	-1.99973E-03 (2.8281E-03)	-0.010681 (0.015114)	-0.010681 (0.015114)	1.00 Sa (0.017321)	92%		0.047756 0.016919			
04/13/06	TH-230	R	1.90097 (0.16665)			7.94894E-01 (3.9907E-02)	4.220159 (0.294966)	4.220159 (0.294966)	1.00 Sa (0.017321)	92%	106%	0.028685 0.007867			
04/13/06	TH-232	R	0.00E00 (0.005857)		U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.013003)	0.00E00 (0.013003)	1.00 Sa (0.017321)	92%		0.01296			
04/13/06	TH-234	R	149.22199 (8.655889)			1.48470E+02 (2.7368E+00)	331.273149 (7.872795)	331.273149 (7.872795)	1.00 Sa (0.017321)	92%					

(J) - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 11

RecCnt:17

RADCALC v4.8.18
STL Richland

Reference Tracer Data: Ref. Date: 24-Feb-06

Sample Tracer Data:

FORM NO. RC-103, REV. 2, 10/95

STL RICHLAND

3/30/2006 6:07:52 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

9N ThIsO PrpRc5016, SepRC5084(5003)

S1 Thorium-228,230,232 by Alpha Spec

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060336 FILTER

pCi/sampl

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech: 4-12-06 yuf

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81N-1-AA J6B270158-1-SAMP 02/05/2006 06:00	0.833sa	503.56sa	50.06g.in	0.0828g	THTC9385 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
2 HX81Q-1-AA J6B270158-2-SAMP 02/05/2006 06:35	0.833sa	501.73sa	50.10g.in	0.0832g	THTC9386 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
3 HX81R-1-AA J6B270158-3-SAMP 02/05/2006 07:15	0.833sa	500.94sa	50.41g.in	0.0838g	THTC9387 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
4 HX81T-1-AA J6B270158-4-SAMP 02/05/2006 07:45	0.833sa	508.67sa	50.07g.in	0.082g	THTC9388 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
5 HX81V-1-AA J6B270158-5-SAMP 02/05/2006 08:15	0.833sa	501.14sa	50.49g.in	0.0839g	THTC9389 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
6 HX81W-1-AA J6B270158-6-SAMP 02/05/2006 08:40	0.833sa	500.55sa	50.15g.in	0.0835g	THTC9390 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
7 HX81X-1-AA J6B270158-7-SAMP 02/05/2006 06:10	0.833sa	500.96sa	50.16g.in	0.0834g	THTC9391 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

STL Richland

Key: In - initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.20

STL RICHLAND

3/30/2006 6:07:53 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

9N Thiso PrpRc5016, SepRC5084(5003)

S1 Thorium-228,230,232 by Alpha Spec

01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060336 FILTER

pCi/sampI

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 HX811-1-AA J6B270158-8-SAMP 02/05/2006 06:15	0.833sa	501.81sa	50.45g.in	0.0837g	THTC9392 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
9 HX812-1-AA J6B270158-9-SAMP 02/05/2006 06:05	0.833sa	507.36sa	50.45g.in	0.0828g	THTC9393 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
10HX813-1-AA J6B270158-10-SAMP 02/05/2006 06:40	0.833sa	500.90sa	50.47g.in	0.0839g	THTC9394 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
11HX814-1-AA J6B270158-11-SAMP 02/05/2006 07:20	0.833sa	502.44sa	50.69g.in	0.084g	THTC9395 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
12HX815-1-AA J6B270158-12-SAMP 02/05/2006 07:50	0.833sa	501.00sa	50.39g.in	0.0838g	THTC9396 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
13HX816-1-AA J6B270158-13-SAMP 02/05/2006 08:20	0.833sa	505.04sa	50.23g.in	0.0828g	THTC9397 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
14HX817-1-AA J6B270158-14-SAMP 02/05/2006 08:45	0.833sa	501.67sa	50.05g.in	0.0831g	THTC9398 03/30/06.pd 02/24/06.r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										

3/30/2006 6:07:53 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

9N ThIs PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #:

Report Due: 03/31/2006

Sep1 DT/Tm Tech:

Batch: 6060336 FILTER

pCi/sampl

PM, Quote: EJ , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15HX818-1-AA J6B270158-15-SAMP 02/05/2006 06:45	0.833sa	501.09sa	50.08g,in	0.0833g	THTC9399 03/30/06,pd 02/24/06,r					
AmtRec: FOLDER #Containers: 1 Scr: Alpha: Beta:										
16H0EP8-1-AA-B J6C010000-336-BLK 02/05/2006 06:00			1.00sa,in	1.00sa	THTC9400 03/30/06,pd 02/24/06,r					
AmtRec: #Containers: 1 Scr: Alpha: Beta:										
17H0EP8-1-AC-C J6C010000-336-LCS 02/05/2006 06:00			1.00sa,in	1.00sa	THSH0232 03/07/06,pd 02/24/06,r					
AmtRec: #Containers: 1 Scr: Alpha: Beta:										

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81N1AA-SAMP Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20
H0EP81AA-BLK:											
Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20
H0EP81AC-LCS:											
Th-230	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

HX81N1AA-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y GDRs: B

H0EP81AA-BLK:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 17

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.20

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Thlso by ALP				Richland Standard Alplso Wo Blk Subt.										
Calc	S1	AIR	HX81N1AA	TH-228	4.52E-02	(9.05E-02)	U4	PCI/SA	R	1.49E-01	4.20E-01	CRDC met		
Calc	S1	AIR	HX81N1AA	TH-230	1.47E-01	(8.74E-02)		PCI/SA	R	6.92E-02	2.52E-01		98%	
Calc	S1	AIR	HX81N1AA	TH-232	0.00E+00	(5.15E-02)	U4	PCI/SA	R		1.14E-01		98%	
Calc	S1	AIR	HX81Q1AA	TH-228	-2.19E-02	(2.20E-02)	U4	PCI/SA	R	7.21E-02	2.63E-01		97%	
Calc	S1	AIR	HX81Q1AA	TH-230	-4.08E-02	(2.90E-02)	U4	PCI/SA	R	9.48E-02	3.00E-01		97%	
Calc	S1	AIR	HX81Q1AA	TH-232	2.04E-02	(4.56E-02)	U4	PCI/SA	R	6.70E-02	2.44E-01		97%	
Calc	S1	AIR	HX81R1AA	TH-228	0.00E+00	(8.20E-02)	U4	PCI/SA	R		1.82E-01		83%	
Calc	S1	AIR	HX81R1AA	TH-230	2.49E-01	(1.26E-01)		PCI/SA	R		1.69E-01		83%	
Calc	S1	AIR	HX81R1AA	TH-232	6.23E-02	(6.25E-02)	U4	PCI/SA	R		1.69E-01		83%	
Calc	S1	AIR	HX81T1AA	TH-228	3.70E-01	(1.56E-01)		PCI/SA	R	9.36E-02	3.41E-01		143%	
Calc	S1	AIR	HX81T1AA	TH-230	1.38E+00	(2.88E-01)		PCI/SA	R		1.43E-01		143%	
Calc	S1	AIR	HX81T1AA	TH-232	3.70E-01	(1.43E-01)		PCI/SA	R		1.43E-01		143%	
Calc	S1	AIR	HX81V1AA	TH-228	1.31E-01	(9.30E-02)	U4	PCI/SA	R	1.01E-01	3.21E-01		101%	
Calc	S1	AIR	HX81V1AA	TH-230	5.88E-01	(1.64E-01)		PCI/SA	R	6.67E-02	2.43E-01		101%	
Calc	S1	AIR	HX81V1AA	TH-232	1.42E-01	(8.43E-02)		PCI/SA	R	6.67E-02	2.43E-01		101%	
Calc	S1	AIR	HX81W1AA	TH-228	-2.22E-02	(2.22E-02)	U4	PCI/SA	R	7.29E-02	2.66E-01		98%	
Calc	S1	AIR	HX81W1AA	TH-230	1.44E-01	(8.57E-02)		PCI/SA	R	6.79E-02	2.47E-01		98%	
Calc	S1	AIR	HX81W1AA	TH-232	-2.06E-02	(2.07E-02)	U4	PCI/SA	R	6.79E-02	2.47E-01		98%	
Calc	S1	AIR	HX81X1AA	TH-228	0.00E+00	(6.64E-02)	U4	PCI/SA	R		1.47E-01		99%	
Calc	S1	AIR	HX81X1AA	TH-230	1.01E-01	(7.18E-02)	U4	PCI/SA	R		1.37E-01		99%	
Calc	S1	AIR	HX81X1AA	TH-232	0.00E+00	(6.18E-02)	U4	PCI/SA	R		1.37E-01		99%	
Calc	S1	AIR	HX8111AA	TH-228	-2.08E-02	(2.09E-02)	U4	PCI/SA	R	6.86E-02	2.50E-01		95%	
Calc	S1	AIR	HX8111AA	TH-230	1.16E-01	(6.77E-02)		PCI/SA	R		1.05E-01		95%	
Calc	S1	AIR	HX8111AA	TH-232	1.94E-02	(4.34E-02)	U4	PCI/SA	R	6.38E-02	2.33E-01		95%	
Calc	S1	AIR	HX8121AA	TH-228	1.40E-01	(8.13E-02)		PCI/SA	R		1.26E-01		99%	
Calc	S1	AIR	HX8121AA	TH-230	4.33E-02	(4.34E-02)	U4	PCI/SA	R		1.17E-01		99%	
Calc	S1	AIR	HX8121AA	TH-232	4.33E-02	(4.34E-02)	U4	PCI/SA	R		1.17E-01		99%	
Calc	S1	AIR	HX8131AA	TH-228	9.28E-02	(8.71E-02)	U4	PCI/SA	R	1.08E-01	3.42E-01		95%	
Calc	S1	AIR	HX8131AA	TH-230	1.08E-01	(7.83E-02)	U4	PCI/SA	R	7.11E-02	2.59E-01		95%	
Calc	S1	AIR	HX8131AA	TH-232	0.00E+00	(5.29E-02)	U4	PCI/SA	R		1.17E-01		95%	
Calc	S1	AIR	HX8141AA	TH-228	5.90E-02	(1.18E-01)	U4	PCI/SA	R	1.94E-01	5.49E-01		95%	
Calc	S1	AIR	HX8141AA	TH-230	4.67E-01	(1.71E-01)		PCI/SA	R	9.04E-02	3.30E-01		95%	
Calc	S1	AIR	HX8141AA	TH-232	0.00E+00	(6.73E-02)	U4	PCI/SA	R		1.49E-01		95%	
Calc	S1	AIR	HX8151AA	TH-228	6.92E-01	(1.86E-01)		PCI/SA	R		1.25E-01		95%	
Calc	S1	AIR	HX8151AA	TH-230	3.17E+00	(4.37E-01)		PCI/SA	R	4.46E-02	2.06E-01		95%	
Calc	S1	AIR	HX8151AA	TH-232	6.01E-01	(1.67E-01)		PCI/SA	R		1.16E-01		95%	
Calc	S1	AIR	HX8161AA	TH-228	5.61E-01	(1.94E-01)		PCI/SA	R	9.72E-02	3.54E-01		98%	

() - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC - Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significants

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:50

RADCALC v4.8.18

STL Richland

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	AIR	HX8161AA	TH-230	2.20E+00	(3.84E-01)		PCI/SA	R		1.49E-01		98%	
Calc	S1	AIR	HX8161AA	TH-232	8.25E-01	(2.21E-01)		PCI/SA	R		1.49E-01		98%	
Calc	S1	AIR	HX8171AA	TH-228	1.92E-01	(1.36E-01)	U4	PCI/SA	R	1.49E-01	4.70E-01		94%	
Calc	S1	AIR	HX8171AA	TH-230	1.19E-01	(8.45E-02)	U4	PCI/SA	R		1.61E-01		94%	
Calc	S1	AIR	HX8171AA	TH-232	5.95E-02	(5.96E-02)	U4	PCI/SA	R		1.61E-01		94%	
Calc	S1	AIR	HX8181AA	TH-228	5.11E-02	(5.13E-02)	U4	PCI/SA	R		1.39E-01		90%	
Calc	S1	AIR	HX8181AA	TH-230	0.00E+00	(5.82E-02)	U4	PCI/SA	R		1.29E-01		90%	
Calc	S1	AIR	HX8181AA	TH-232	0.00E+00	(5.82E-02)	U4	PCI/SA	R		1.29E-01		90%	
Calc	S1	AIR	H0EP81AA	TH-228	3.99E-03	(6.32E-03)	U4	PCI/SA	R	9.28E-03	2.94E-02	B	93%	
Calc	S1	AIR	H0EP81AA	TH-230	9.28E-03	(6.72E-03)	U4	PCI/SA	R	6.10E-03	2.23E-02	B	93%	
Calc	S1	AIR	H0EP81AA	TH-232	0.00E+00	(4.54E-03)	U4	PCI/SA	R		1.01E-02	B	93%	
Calc	S1	AIR	H0EP81AC	TH-228	-5.14E-03	(7.28E-03)	U4	PCI/SA	R	1.69E-02	4.78E-02	S	92%	
Calc	S1	AIR	H0EP81AC	TH-230	1.90E+00	(1.67E-01)		PCI/SA	R	7.87E-03	2.87E-02	S	92%	106%
Calc	S1	AIR	H0EP81AC	TH-232	0.00E+00	(5.86E-03)	U4	PCI/SA	R		1.30E-02	S	92%	

P. Anderson
4.14.06

Batch Nbr: 6060336

Alpha Spec, Thlso by ALP , Calculated Results
Detailed Report

4/13/2006 4:17:45 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81N1AA	PCI/SA		02/05/06 06:00	04/12/06 20:39		1		1.00 Sa				
												682.55 Alq		0.08281 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	3	4	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0683E+00	
			499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
1	04/12/06 16:29	TH-230	4	1	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
2	04/12/06 16:29	TH-232	0	0	ALP171	COP	N	N	2.6455E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.937E-03)			4%			(0.000E+00)	12.075785		
3	04/12/06 14:18	TH-234	6011	640	GPC30A	COP	Y	N	4.4818E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.723E-03)						(0.000E+00)	12.075785		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	0.045226 (0.090509)	U4	2.00220E-03 (4.0043E-03)	0.007783 (0.015569)	0.007783 (0.015569)	1.00 Sa (0.027064)	98%		0.419954 0.148786						
	04/13/06	TH-230	R	0.147279 (0.087425)		7.00749E-03 (4.1275E-03)	0.027076 (0.015998)	0.027076 (0.015998)	1.00 Sa (0.027064)	98%		0.252394 0.06922						
	04/13/06	TH-232	R	0.00E00 (0.051537)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.009474)	0.00E00 (0.009474)	1.00 Sa (0.027064)	98%		0.114036						
	04/13/06	TH-234	R	3632.224478 (218.697412)		2.99270E+02 (3.8769E+00)	667.745102 (13.234438)	667.745102 (13.234438)	1.00 Sa (0.027064)	98%								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
2	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81Q1AA	PCI/SA		02/05/06 06:35	04/12/06 20:39		1		1.00 Sa				
												684.05 Alq		0.083179 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	1	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0683E+00	
			499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
1	04/12/06 16:29	TH-230	0	2	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
2	04/12/06 16:29	TH-232	1	1	ALP172	COP	N	N	2.7367E-01		N	97%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.210E-03)			4%			(0.000E+00)	12.022294		
3	04/12/06 14:18	TH-234	6106	767	GPC30B	COP	Y	N	4.5684E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(7.492E-03)						(0.000E+00)	12.022294		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:2		RADCALC v4.8.18 STL Richland	

Batch Nbr: 6060336														Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:45 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/13/06	TH-228	R	-0.021901 (0.02196)	U4	-1.00105E-03 (1.0011E-03)	-0.003786 (0.00379)	-0.003786 (0.00379)	1.00 Sa (0.027064)	97%			0.262726 0.072054												
	04/13/06	TH-230	R	-0.040757 (0.028976)	U4	-2.00210E-03 (1.4157E-03)	-0.007526 (0.005334)	-0.007526 (0.005334)	1.00 Sa (0.027064)	97%			0.299973 0.094816												
	04/13/06	TH-232	R	0.020379 (0.045593)	U4	1.00108E-03 (2.2384E-03)	0.003763 (0.008416)	0.003763 (0.008416)	1.00 Sa (0.027064)	97%			0.244463 0.067045												
	04/13/06	TH-234	R	3600.906337 (218.052388)		3.03766E+02 (3.9074E+00)	664.933007 (13.859106)	664.933007 (13.859106)	1.00 Sa (0.027064)	97%															
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
3	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81R1AA	PCI/SA		02/05/06 07:15	04/12/06 20:39		1		1.00 Sa											
					J6B270158-3 v4.8.18		AIR					687.30 Alq		0.083825 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/12/06 16:29	TH-228	0	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N	1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0682E+00									
1	04/12/06 16:29	TH-230	4	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N	1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00									
2	04/12/06 16:29	TH-232	1	0	ALP173	COP	N	N	2.0829E-01 (6.249E-03)		N	83% 3%	N	1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00									
3	04/12/06 14:18	TH-234	5115 20	746 500	GPC30C	COP	Y	N	4.4643E-01 (6.696E-03)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 11.929549	1.0000E+00									
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC											
	04/13/06	TH-228	R	0.00E00 (0.082043)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.014293)	0.00E00 (0.014293)	1.00 Sa (0.027064)	83%			0.181538												
	04/13/06	TH-230	R	0.249334 (0.12602)		8.00854E-03 (4.0043E-03)	0.046399 (0.023302)	0.046399 (0.023302)	1.00 Sa (0.027064)	83%			0.168924												
	04/13/06	TH-232	R	0.062333 (0.062503)	U4	2.00214E-03 (2.0021E-03)	0.0116 (0.011613)	0.0116 (0.011613)	1.00 Sa (0.027064)	83%			0.168924												
	04/13/06	TH-234	R	3060.496301 (185.035182)		2.54258E+02 (3.5764E+00)	569.536097 (11.711562)	569.536097 (11.711562)	1.00 Sa (0.027064)	83%															
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
4	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81T1AA	PCI/SA		02/05/06 07:45	04/12/06 20:39		1		1.00 Sa											
					J6B270158-4 v4.8.18		AIR					684.05 Alq		0.081995 Sa											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/12/06 16:29	TH-228	7	1	ALP174	COP	N	N	2.0781E-01 (6.234E-03)		N	143% 5%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.195891	1.0682E+00									
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																									
Page 2													RecCnt:4		RADCALC v4.8.18										
													STL Richland												

Batch Nbr: 6060336															Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:45 PM		
1	04/12/06 16:29	TH-230	26	0	ALP174 COP	N	N	2.0781E-01	N	143%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			499.4666666	998.95		Y		(6.234E-03)		5%		(0.000E+00)	12.195891														
2	04/12/06 16:29	TH-232	7	0	ALP174 COP	N	N	2.0781E-01	N	143%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			499.4666666	998.95		Y		(6.234E-03)		5%		(0.000E+00)	12.195891														
4	04/12/06 14:18	TH-234	8727	614	GPC30D COP	Y	N	4.4610E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			20	500		Y		(6.691E-03)				(0.000E+00)	12.195891														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC													
	04/13/06	TH-228	R	0.36971 (0.155529)		1.30139E-02 (5.3909E-03)	0.063001 (0.02626)	0.063001 (0.02626)	1.00 Sa (0.027064)	143%		0.341158 0.093564															
	04/13/06	TH-230	R	1.376108 (0.288111)		5.20555E-02 (1.0209E-02)	0.250491 (0.050474)	0.250491 (0.050474)	1.00 Sa (0.027064)	143%		0.143433															
	04/13/06	TH-232	R	0.370491 (0.142641)		1.40149E-02 (5.2972E-03)	0.06744 (0.02568)	0.06744 (0.02568)	1.00 Sa (0.027064)	143%		0.143433															
	04/13/06	TH-234	R	5358.447032 (320.286092)		4.35122E+02 (4.6712E+00)	975.391168 (17.991871)	975.391168 (17.991871)	1.00 Sa (0.027064)	143%																	
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol												
5	Calc	S1	AIR	*STLE	AlpisoWoBS	HX81V1AA	PCI/SA		02/05/06 08:15	04/12/06 20:39		1		1.00 Sa													
536403,P 0514															J6B270158-S v4.8.18		AIR		Sample was reanalyzed		684.80 Alq		0.083925 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn									
0	04/12/06 16:29	TH-228	4	2	ALP175 COP	N	N	2.6497E-01			N	101%	N	1.0000E+00	4.5045E-01	1.0682E+00											
			499.4666666	998.95		Y		(7.949E-03)				4%		(0.000E+00)	11.915402												
1	04/12/06 16:29	TH-230	15	1	ALP175 COP	N	N	2.6497E-01			N	101%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			499.4666666	998.95		Y		(7.949E-03)				4%		(0.000E+00)	11.915402												
2	04/12/06 16:29	TH-232	4	1	ALP175 COP	N	N	2.6497E-01			N	101%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			499.4666666	998.95		Y		(7.949E-03)				4%		(0.000E+00)	11.915402												
3	04/12/06 14:43	TH-234	6244	640	GPC30A COP	Y	N	4.4818E-01			N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			20	500		Y		(6.723E-03)						(0.000E+00)	11.915402												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC													
	04/13/06	TH-228	R	0.130748 (0.092952)	U4	6.00644E-03 (4.2472E-03)	0.022805 (0.016161)	0.022805 (0.016161)	1.00 Sa (0.027064)	101%		0.320764 0.101388															
	04/13/06	TH-230	R	0.588056 (0.164184)		2.90310E-02 (7.8186E-03)	0.109563 (0.029949)	0.109563 (0.029949)	1.00 Sa (0.027064)	101%		0.243253 0.066713															
	04/13/06	TH-232	R	0.141945 (0.084258)		7.00749E-03 (4.1275E-03)	0.026446 (0.015626)	0.026446 (0.015626)	1.00 Sa (0.027064)	101%		0.243253 0.066713															
	04/13/06	TH-234	R	3723.500998 (223.997795)		3.10920E+02 (3.9513E+00)	693.739123 (13.638664)	693.739123 (13.638664)	1.00 Sa (0.027064)	101%																	
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																											
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration																											
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																											
															Page 3												
															RecCnt:6												
															RADCALC v4.8.18												
															STL Richland												

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:46 PM				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
6	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81W1AA	PCI/SA		02/05/06 08:40	04/12/06 20:39			1	1.00 Sa				
536403,P 0515 J6B270158-6 v4.8.18 AIR 684.55 Alq 0.083458 Sa																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
1	04/12/06 16:29	TH-230	4	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
2	04/12/06 16:29	TH-232	0	1	ALP176	COP	N	N	2.6767E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.030E-03)			4%			(0.000E+00)	11.982061		
3	04/12/06 14:43	TH-234	6152	767	GPC30B	COP	Y	N	4.5684E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(7.492E-03)						(0.000E+00)	11.982061		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/13/06	TH-228	R	-0.022164 (0.022224)	U4	-1.00105E-03 (1.0011E-03)	-0.003844 (0.003849)	-0.003844 (0.003849)	1.00 Sa (0.027064)	98%		0.265883 0.07292						
	04/13/06	TH-230	R	0.144377 (0.085707)		7.00749E-03 (4.1275E-03)	0.02675 (0.015807)	0.02675 (0.015807)	1.00 Sa (0.027064)	98%		0.247422 0.067857						
	04/13/06	TH-232	R	-0.020625 (0.020681)	U4	-1.00105E-03 (1.0011E-03)	-0.003821 (0.003826)	-0.003821 (0.003826)	1.00 Sa (0.027064)	98%		0.247422 0.067857						
	04/13/06	TH-234	R	3616.029252 (218.930826)		3.06066E+02 (3.9221E+00)	669.967625 (13.94394)	669.967625 (13.94394)	1.00 Sa (0.027064)	98%								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
7	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81X1AA	PCI/SA		02/05/06 06:10	04/12/06 20:39			1	1.00 Sa				
536403,P 0516 J6B270158-7 v4.8.18 AIR 684.05 Alq 0.083406 Sa																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:29	TH-228	0	0	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0683E+00	
			499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
1	04/12/06 16:29	TH-230	2	0	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
2	04/12/06 16:29	TH-232	0	0	ALP177	COP	N	N	2.1725E-01		N	99%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(6.517E-03)			4%			(0.000E+00)	11.989485		
4	04/12/06 14:43	TH-234	6052	746	GPC30C	COP	Y	N	4.4643E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.696E-03)						(0.000E+00)	11.989485		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																		
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																		
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time																		
Page 4													RecCnt:7		RADCALC v4.8.18			
															STL Richland			

Batch Nbr: 6060336															Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:46 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	0.00E00 (0.066442)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.011516)	0.00E00 (0.011516)	1.00 Sa (0.027064)	99%			0.147017													
	04/13/06	TH-230	R	0.100956 (0.071773)	U4	4.00427E-03 (2.8314E-03)	0.018693 (0.013247)	0.018693 (0.013247)	1.00 Sa (0.027064)	99%			0.136795													
	04/13/06	TH-232	R	0.00E00 (0.061822)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.011447)	0.00E00 (0.011447)	1.00 Sa (0.027064)	99%			0.136795													
	04/13/06	TH-234	R	3642.638179 (219.296963)		3.01108E+02 (3.8901E+00)	674.479762 (13.352469)	674.479762 (13.352469)	1.00 Sa (0.027064)	99%																
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
8	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8111AA	PCI/SA		02/05/06 06:15	04/12/06 20:39			1	1.00 Sa												
536403,P 0517															J6B270158-8 v4.8.18	AIR			683.30 Alq		0.083747 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/12/06 16:29	TH-228	0	1	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0683E+00									
1	04/12/06 16:29	TH-230	3	0	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00									
2	04/12/06 16:29	TH-232	1	1	ALP178	COP	N	N	2.9265E-01 (8.780E-03)		N	95% 3%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00									
3	04/12/06 14:43	TH-234	5807	614	GPC30D	COP	Y	N	4.4610E-01 (6.691E-03)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01 11.940792	1.0000E+00									
			20	500			Y																			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC												
	04/13/06	TH-228	R	-0.020847 (0.020903)	U4	-1.00105E-03 (1.0011E-03)	-0.003628 (0.003632)	-0.003628 (0.003632)	1.00 Sa (0.027064)	95%			0.250083													
	04/13/06	TH-230	R	0.116386 (0.067741)		6.00641E-03 (3.4678E-03)	0.021638 (0.012534)	0.021638 (0.012534)	1.00 Sa (0.027064)	95%			0.105136													
	04/13/06	TH-232	R	0.019398 (0.043398)	U4	1.00108E-03 (2.2384E-03)	0.003606 (0.008066)	0.003606 (0.008066)	1.00 Sa (0.027064)	95%			0.232696													
	04/13/06	TH-234	R	3486.010149 (210.064037)		2.89122E+02 (3.8105E+00)	648.110289 (12.941146)	648.110289 (12.941146)	1.00 Sa (0.027064)	95%			0.063818													
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol											
9	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8121AA	PCI/SA		02/05/06 06:05	04/12/06 20:39			1	1.00 Sa												
536403,000357															J6B270158-9 v4.8.18	AIR			684.55 Alq		0.08283 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn								
0	04/12/06 16:29	TH-228	3	0	ALP113	COP	N	N	2.5291E-01 (7.587E-03)		N	99% 4%	N		1.0000E+00 (0.000E+00)	4.5045E-01 12.072857	1.0683E+00									
			500.0333333	1000.1			Y																			
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU															Page 5											
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration															RecCnt:9											
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															RADCALC v4.8.18											
															STL Richland											

Batch Nbr: 6060336															Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:46 PM		
1	04/12/06 16:29	TH-230	1	0	ALP113 COP	N	N	2.5291E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			500.0333333	1000.1		Y		(7.587E-03)		4%		(0.000E+00)	12.072857														
2	04/12/06 16:29	TH-232	1	0	ALP113 COP	N	N	2.5291E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			500.0333333	1000.1		Y		(7.587E-03)		4%		(0.000E+00)	12.072857														
3	04/12/06 15:07	TH-234	6119	640	GPC30A COP	Y	N	4.4818E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00													
			20	500		Y		(6.723E-03)				(0.000E+00)	12.072857														
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC													
	04/13/06	TH-228	R	0.139618 (0.081262)		5.99960E-03 (3.4639E-03)	0.024033 (0.013921)	0.024033 (0.013921)	1.00 Sa (0.027064)	99%		0.126122															
	04/13/06	TH-230	R	0.043303 (0.043421)	U4	1.99987E-03 (1.9999E-03)	0.007963 (0.007972)	0.007963 (0.007972)	1.00 Sa (0.027064)	99%		0.117352															
	04/13/06	TH-232	R	0.043303 (0.043421)	U4	1.99987E-03 (1.9999E-03)	0.007963 (0.007972)	0.007963 (0.007972)	1.00 Sa (0.027064)	99%		0.117352															
	04/13/06	TH-234	R	3696.867321 (222.497792)		3.04670E+02 (3.9115E+00)	679.793833 (13.42191)	679.793833 (13.42191)	1.00 Sa (0.027064)	99%																	
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol												
10	Calc	S1	AIR	*STLE	AlpisoWoBS	HX8131AA	PCI/SA		02/05/06 06:40	04/12/06 20:40			1	1.00 Sa													
536	403,000358				J6B270158-10 v4.8.18		AIR					685.30 Aliq		0.083932 Sa													
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn									
0	04/12/06 16:30	TH-228	3	2	ALP114 COP	N	N	2.6103E-01			N	95%	N	1.0000E+00	4.5045E-01	1.0683E+00											
			500.1833333	1000.0666			Y	(7.831E-03)				3%		(0.000E+00)	11.914415												
1	04/12/06 16:30	TH-230	3	1	ALP114 COP	N	N	2.6103E-01			N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			500.1833333	1000.0666			Y	(7.831E-03)				3%		(0.000E+00)	11.914415												
2	04/12/06 16:30	TH-232	0	0	ALP114 COP	N	N	2.6103E-01			N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			500.1833333	1000.0666			Y	(7.831E-03)				3%		(0.000E+00)	11.914415												
3	04/12/06 15:07	TH-234	5990	767	GPC30B COP	Y	N	4.5684E-01			N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00											
			20	500			Y	(7.492E-03)						(0.000E+00)	11.914415												
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC													
	04/13/06	TH-228	R	0.092818 (0.087111)	U4	3.99793E-03 (3.7404E-03)	0.01619 (0.015166)	0.01619 (0.015166)	1.00 Sa (0.027064)	95%		0.341653 0.107997															
	04/13/06	TH-230	R	0.107967 (0.078271)	U4	4.99787E-03 (3.6043E-03)	0.020117 (0.014539)	0.020117 (0.014539)	1.00 Sa (0.027064)	95%		0.259074 0.071057															
	04/13/06	TH-232	R	0.00E00 (0.052896)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.009856)	0.00E00 (0.009856)	1.00 Sa (0.027064)	95%		0.117043															
	04/13/06	TH-234	R	3500.457078 (212.063214)		2.97966E+02 (3.8702E+00)	652.237012 (13.645054)	652.237012 (13.645054)	1.00 Sa (0.027064)	95%																	
{} - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																											
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																											
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time																											
Page 6															RecCnt:11												
															RADCALC v4.8.18												
															STL Richland												

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:46 PM				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
11	Calc	S1	AIR	*STLE	AlpIsoWoBS	HX8141AA	PCI/SA		02/05/06 07:20	04/12/06 20:40			1	1.00 Sa				
536403,000359					J6B270158-11 v4.8.18		AIR					688.54 Alq		0.084039 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:30	TH-228	3	4	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
1	04/12/06 16:30	TH-230	9	1	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
2	04/12/06 16:30	TH-232	0	0	ALP116	COP	N	N	2.0433E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.3166666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.899177		
3	04/12/06 15:07	TH-234	5894	746	GPC30C	COP	Y	N	4.4643E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.696E-03)						(0.000E+00)	11.899177		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/MLcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/13/06	TH-228	R	0.059011 (0.118234)	U4	1.99674E-03 (3.9980E-03)	0.010306 (0.020642)	0.010306 (0.020642)	1.00 Sa	95%			0.548625 0.194388					
	04/13/06	TH-230	R	0.467192 (0.17068)		1.69887E-02 (6.0790E-03)	0.087163 (0.031455)	0.087163 (0.031455)	1.00 Sa	95%			0.32973 0.090441					
	04/13/06	TH-232	R	0.00E00 (0.067319)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.012559)	0.00E00 (0.012559)	1.00 Sa	95%			0.148956					
	04/13/06	TH-234	R	3520.350857 (212.066988)		2.93208E+02 (3.8390E+00)	656.783818 (13.076925)	656.783818 (13.076925)	1.00 Sa	95%								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
12	Calc	S1	AIR	*STLE	AlpIsoWoBS	HX8151AA	PCI/SA		02/05/06 07:50	04/12/06 20:40			1	1.00 Sa				
536403,000360					J6B270158-12 v4.8.18		AIR					685.55 Alq		0.083782 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/12/06 16:30	TH-228	15	0	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0682E+00	
			500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
1	04/12/06 16:30	TH-230	74	1	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
2	04/12/06 16:30	TH-232	14	0	ALP117	COP	N	N	2.6295E-01		N	95%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1166666	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	11.935713		
3	04/12/06 15:07	TH-234	5853	614	GPC30D	COP	Y	N	4.4610E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.691E-03)						(0.000E+00)	11.935713		
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time															RecCnt:12		RADCALC v4.8.18	
																	STL Richland	

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:47 PM											
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/13/06	TH-228	R	0.691604 (0.185701)		2.99930E-02 (7.7442E-03)	0.120423 (0.031601)	0.120423 (0.031601)	1.00 Sa (0.027064)	95%		0.12495													
	04/13/06	TH-230	R	3.166322 (0.436723)		1.47565E-01 (1.7205E-02)	0.588925 (0.074007)	0.588925 (0.074007)	1.00 Sa (0.027064)	95%		0.205501 0.044642													
	04/13/06	TH-232	R	0.600658 (0.166522)		2.79935E-02 (7.4816E-03)	0.11172 (0.030314)	0.11172 (0.030314)	1.00 Sa (0.027064)	95%		0.11627													
	04/13/06	TH-234	R	3512.247148 (211.604935)		2.91422E+02 (3.8256E+00)	653.266084 (13.021551)	653.266084 (13.021551)	1.00 Sa (0.027064)	95%															
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
13	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8161AA	PCI/SA		02/05/06 08:20	04/12/06 20:40			1	1.00 Sa											
												685.05 Alq				0.082848 Sa									
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/12/06 16:30	TH-228	10 ✓	1	ALP119	COP	N	N	2.0125E-01 (6.037E-03)		N	98% 4%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0682E+00									
1	04/12/06 16:30	TH-230	40 ✓	0	ALP119	COP	N	N	2.0125E-01 (6.037E-03)		N	98% 4%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00									
2	04/12/06 16:30	TH-232	15	0	ALP119	COP	N	N	2.0125E-01 (6.037E-03)		N	98% 4%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00									
3	04/12/06 15:29	TH-234	6059	640	GPC30A	COP	Y	N	4.4818E-01 (6.723E-03)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.070287	1.0000E+00									
			20	500			Y																		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC											
	04/13/06	TH-228	R	0.561361 (0.193649)		1.89980E-02 (6.4025E-03)	0.096657 (0.032887)	0.096657 (0.032887)	1.00 Sa (0.027064)	98%		0.35444 0.097209													
	04/13/06	TH-230	R	2.199492 (0.383645)		7.99920E-02 (1.2648E-02)	0.404537 (0.066707)	0.404537 (0.066707)	1.00 Sa (0.027064)	98%		0.149016													
	04/13/06	TH-232	R	0.824809 (0.221459)		2.99970E-02 (7.7452E-03)	0.151701 (0.039808)	0.151701 (0.039808)	1.00 Sa (0.027064)	98%		0.149016													
	04/13/06	TH-234	R	3659.686121 (220.310104)		3.01670E+02 (3.8923E+00)	673.100094 (13.317782)	673.100094 (13.317782)	1.00 Sa (0.027064)	98%															
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol										
14	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8171AA	PCI/SA		02/05/06 08:45	04/12/06 20:41			1	1.00 Sa											
												682.80 Alq				0.083106 Sa									
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn							
0	04/12/06 16:31	TH-228	4	2	ALP120	COP	N	N	1.9421E-01 (5.826E-03)		N	94% 3%	N	1.0000E+00 (0.000E+00)	4.5045E-01 12.032865	1.0682E+00									
			500.1666666 1000.0666				Y																		
														Page 8				RecCnt:14		RADCALC v4.8.18					
														IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration										STL Richland	
																Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time									

Batch Nbr: 6060336										Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:47 PM		
1	04/12/06 16:31	TH-230	2	0		ALP120 COP	N	N	1.9421E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00					
				500.1666666	1000.0666		Y		(5.826E-03)			3%			(0.000E+00)	12.032865						
2	04/12/06 16:31	TH-232	1	0		ALP120 COP	N	N	1.9421E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00					
				500.1666666	1000.0666		Y		(5.826E-03)			3%			(0.000E+00)	12.032865						
3	04/12/06 15:29	TH-234	5885	767		GPC30B COP	Y	N	4.5684E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			20	500			Y		(7.492E-03)						(0.000E+00)	12.032865						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EfctU	IDC/LcC	BikLcC/MDC	StdDvMdC/LcC								
	04/13/06	TH-228	R	0.191675 (0.136291)	U4	5.99747E-03 (4.2414E-03)	0.033106 (0.023465)	0.033106 (0.023465)	1.00 Sa (0.027064)	94%		0.470325 0.14867										
	04/13/06	TH-230	R	0.118922 (0.08455)	U4	3.99867E-03 (2.8275E-03)	0.02194 (0.015549)	0.02194 (0.015549)	1.00 Sa (0.027064)	94%		0.161139										
	04/13/06	TH-232	R	0.059461 (0.059623)	U4	1.99933E-03 (1.9993E-03)	0.01097 (0.010983)	0.01097 (0.010983)	1.00 Sa (0.027064)	94%		0.161139										
	04/13/06	TH-234	R	3472.968385 (210.485144)		2.92716E+02 (3.8361E+00)	640.744948 (13.451143)	640.744948 (13.451143)	1.00 Sa (0.027064)	94%												
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol							
15	Calc	S1	AIR	*STLE	AlplsoWoBS	HX8181AA	PCI/SA		02/05/06 06:45	04/13/06 10:42			1	1.00 Sa								
536403,000363					J6B270158-15 v4.8.18		AIR					684.30 Alq		0.083252 Sa								
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn				
0	04/13/06 06:32	TH-228	1 /	0		ALP113 COP	N	N	2.5291E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0689E+00					
			500.1833333	1000.1			Y		(7.587E-03)			3%			(0.000E+00)	12.011754						
1	04/13/06 06:32	TH-230	0	0		ALP113 COP	N	N	2.5291E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			500.1833333	1000.1			Y		(7.587E-03)			3%			(0.000E+00)	12.011754						
2	04/13/06 06:32	TH-232	0	0		ALP113 COP	N	N	2.5291E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			500.1833333	1000.1			Y		(7.587E-03)			3%			(0.000E+00)	12.011754						
3	04/12/06 15:29	TH-234	5526	746		GPC30C COP	Y	N	4.4643E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00					
			20	500			Y		(6.696E-03)						(0.000E+00)	12.011754						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EfctU	IDC/LcC	BikLcC/MDC	StdDvMdC/LcC								
	04/13/06	TH-228	R	0.051129 (0.051268)	U4	1.99927E-03 (1.9993E-03)	0.008841 (0.008851)	0.008841 (0.008851)	1.00 Sa (0.027064)	90%		0.13856										
	04/13/06	TH-230	R	0.00E00 (0.058234)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.010763)	0.00E00 (0.010763)	1.00 Sa (0.027064)	90%		0.128855										
	04/13/06	TH-232	R	0.00E00 (0.058234)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.010763)	0.00E00 (0.010763)	1.00 Sa (0.027064)	90%		0.128855										
	04/13/06	TH-234	R	3330.650062 (200.958275)		2.74808E+02 (3.7173E+00)	615.56795 (12.433445)	615.56795 (12.433445)	1.00 Sa (0.027064)	90%												
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU										Page 9		RecCnt:16		RADCALC v4.8.18								
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration														STL Richland								
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count. All Result Digits May Not be Significants. Date/Time - mm/dd/yy hh:mm, 24hr Time																						

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP , Calculated Results										4/13/2006 4:17:47 PM				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
16	Calc	S1	AIR	*STLE	AlplsoWoBS	H0EP81AA	PCI/SA	B	02/05/06 06:00	04/13/06 10:42			1	1.00 Sa				
0,INTRA-LAB BLANK					J6C010000-336		AIR					684.05 Aliq		1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 06:32	TH-228	2	2	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0689E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
1	04/13/06 06:32	TH-230	3	1	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
2	04/13/06 06:32	TH-232	0	0	ALP114	COP	N	N	2.6103E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.2	1000.0666			Y		(7.831E-03)			3%			(0.000E+00)	1.00		
3	04/12/06 15:29	TH-234	5699	614	GPC30D	COP	Y	N	4.4610E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.691E-03)						(0.000E+00)	1.00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC				
	04/13/06	TH-228	R	0.003989	U4	1.99853E-03	0.008284	0.008284	1.00 Sa	93%		0.029371						
				(0.006316)		(3.1612E-03)	(0.01311)	(0.01311)	(0.017321)			0.009284						
	04/13/06	TH-230	R	0.009276	U4	4.99767E-03	0.020592	0.020592	1.00 Sa	93%		0.022258						
				(0.006722)		(3.6042E-03)	(0.014882)	(0.014882)	(0.017321)			0.006105						
	04/13/06	TH-232	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.00 Sa	93%		0.010056						
				(0.004545)		(0.0000E+00)	(0.010089)	(0.010089)	(0.017321)									
	04/13/06	TH-234	R	286.488623		2.83722E+02	636.00538	636.00538	1.00 Sa	93%								
				(16.211363)		(3.7749E+00)	(12.752219)	(12.752219)	(0.017321)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
17	Calc	S1	AIR	*STLE	AlplsoWoBS	H0EP81AC	PCI/SA	S	02/05/06 06:00	04/13/06 10:42		3.9950	1	1.00 Sa				
0,INTRA-LAB CHECK					J6C010000-336		AIR					359.37 Aliq		1.00 Sa				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/13/06 06:32	TH-228	1	4	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0689E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
1	04/13/06 06:32	TH-230	398	1	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
2	04/13/06 06:32	TH-232	0	0	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000.1333			Y		(6.130E-03)			4%			(0.000E+00)	1.00		
3	04/12/06 16:13	TH-234	2995	640	GPC30A	COP	Y	N	4.4818E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(6.723E-03)						(0.000E+00)	1.00		
(J) - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU															Page 10			
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration															RecCnt:17			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh mm, 24hr Time															RADCALC v4.8.18			
															STL Richland			

Batch Nbr: 6060336				Alpha Spec, Thlso by ALP				, Calculated Results				4/13/2006 4:17:47 PM		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
04/13/06	TH-228	R	-0.005143 (0.007282)		U4	-1.99973E-03 (2.8281E-03)	-0.010681 (0.015114)	-0.010681 (0.015114)	1.00 Sa (0.017321)	92%		0.047756 0.016919		
04/13/06	TH-230	R	1.90097 (0.16665)			7.94894E-01 (3.9907E-02)	4.220159 (0.294966)	4.220159 (0.294966)	1.00 Sa (0.017321)	92%	106%	0.028685 0.007867		
04/13/06	TH-232	R	0.00E00 (0.005857)		U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.013003)	0.00E00 (0.013003)	1.00 Sa (0.017321)	92%		0.01296		
04/13/06	TH-234	R	149.22199 (8.655889)			1.48470E+02 (2.7368E+00)	331.273149 (7.872795)	331.273149 (7.872795)	1.00 Sa (0.017321)	92%				

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 11

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.18

STL Richland

Reference Tracer Data: Ref. Date: 24-Feb-06

Sample Tracer Data:

FORM NO. RC-103, REV. 2, 10/95

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST

4/13
0052C.R. Technician SD
Date Counted 4/12/06Counting Time 500
Sample _____ MinutesSOP's
Operating: RICHRD008C.R. Analyst SD
Date Analyzed 4/13/06Background See Alpha Analysis ReportReview: RICHRD0016
606 0336

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
					(6)	(8)	(9)		
Hx81N1AA		10		0	See Alpha Analysis Report for ROI Information			171	
Hx81Q1AA		10		0	See Alpha Analysis Report for ROI Information			172	
Hx81R1AA		10		0	See Alpha Analysis Report for ROI Information			173	
Hx81T1AA		10		0	See Alpha Analysis Report for ROI Information			174	
Hx81V1AA		10		0	See Alpha Analysis Report for ROI Information			175	
Hx81W1AA		10		0	See Alpha Analysis Report for ROI Information			176	
Hx81X1AA		10		0	See Alpha Analysis Report for ROI Information			177	
Hx8111AA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST

4/13
0050C.R. Technician 610
Date Counted 4/12/06Counting Time
Sample 500 MinutesSOP's
Operating: RICHRD008C.R. Analyst ∞
Date Analyzed 4/13/06Background See Alpha Analysis Report
BRCReview: RICHRD0016
6060336

WorkOrder #	Th-229 (4845 KeV) Tracer				TOTAL COUNTS			Det #	Comment
	from Th-234 Beta Count (7)				Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
HX8121AA		10		0	See Alpha Analysis Report for ROI Information			113	
HX8131AA		10		0	See Alpha Analysis Report for ROI Information			114	
HX8141AA		10		0	See Alpha Analysis Report for ROI Information			116	
HX8151AA		10		0	See Alpha Analysis Report for ROI Information			117	
HX8161AA		10		0	See Alpha Analysis Report for ROI Information			119	
HX8171AA		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST ^{4/10} _{MSR}

C.R. Technician JS
 Date Counted 4/13
 C.R. Analyst OK
 Date Analyzed 4/13/06

Counting Time 500 Minutes
 Sample BRC
 Background See Alpha Analysis Report
 SOP's
 Operating: RICHRD008
 Review: RICHRD0016
2/5/06 6060336

WorkOrder #	Th-229 (4845 KeV) Tracer				TOTAL COUNTS			Det #	Comment
	from Th-234 Beta Count (7)				Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
Hx 8181AA		10		0	See Alpha Analysis Report for ROI Information			113	
HOEP 81AA		10		0	See Alpha Analysis Report for ROI Information			114	
HOEP 81AC		10		0	See Alpha Analysis Report for ROI Information			116	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6110472; RTHISO Thlso by ALP
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

✓

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

✓

4.2 Were analysis volumes entered correctly?

Yes No N/A

✓

4.3 Were Yields entered correctly?

Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

✓

5.2 Are all required forms filled out?

Yes No N/A

✓

5.3 Was the correct methodology used?

Yes No N/A

✓

5.4 Was transcription checked?

Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

✓

5.6 Are worksheet entries complete and correct?

Yes No N/A

✓

6.0 Comments on any No response:

See NCM.

12-07904

First Level Review

Pam Anderson

Date

4/24/06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6110472

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

See NCR

Second Level Review:

Sherry A. Adams

Date:

4-28-06

Sample Preparation/Analysis

Balance Id:1120373922

4/20/2006 4:39:59 PM

536403, Brown and Caldwell
Caldwell

, Brown &

9N ThIsa PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

AnalyDueDate: 03/31/2006

Batch: 6110472 FILTER

pCi/sampl

PM, Quote: EJ , 63174

Prep Tech: HansenM

SEQ Batch, Test: None

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81V-3-AA J6B270158-5-SAMP	0.833sa	501.14sa	50.31g,in	0.0836g	THTC9525 04/20/06,pd 02/24/06,r					
02/05/2006 08:15			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:	Beta:	
2 H3PLC-1-AA-B J6D200000-472-BLK			1.00sa,in	1.00sa	THTC9526 04/20/06,pd 02/24/06,r					
02/05/2006 08:15			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	
3 H3PLC-1-AC-C J6D200000-472-LCS			1.00sa,in	1.00sa	THSH0240 04/11/06,pd 02/24/06,r					
02/05/2006 08:15			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ , 63174

HX81V3AA-SAMP Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H3PLC1AA-BLK Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H3PLC1AC-LCS:

Th-230	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20
--------	-------	---------	--------	---------	--------	--------	------	---------	--------	---------	--------

HX81V3AA-SAMP Calc Info:

Uncert Level (#s): 2

Decay to SaDt: Y

Blk Subt.: N

Sci.Not.: Y

ODRs: B

H3PLC1AA-BLK Calc Info:

ISV - Insufficient Volume for Analysis

WO Cnt: 3

Prep_SamplePrep v4.8.22

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Clouseau Nonconformance Memo



NCM #: 10-07906	Classification: Anomaly
NCM Initiated By: Pam Anderson	Status: GLREVIEW
Date Opened: 04/25/2006	Production Area: Environmental - Sep
Date Closed:	Tests: Thlso by ALP
	Lot #'s (Sample #'s): J6B270158 (5),
	QC Batches: 6110472
Nonconformance: Other (describe in detail)	
Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	04/25/2006	Sample HX81V1AA had a very high yield on the first analysis. A recount was still high. The sample was reanalyzed with an acceptable yield of 92%.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	04/25/2006	The sample was reanalyzed with a good yield.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

Verified By	Due Date	Status	Notes
			This section not yet completed by QA.

Approval History

Date Approved	Approved By	Position
---------------	-------------	----------

4/24/2006 4:19:10 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/24/2005, 4/29/2006, Batch: '6110472', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6110472				
AC	CalcC	HansenM	4/20/2006 4:20:18 PM	
SC		hansenm	IsBatched 4/20/2006 4:14:32 PM	ICOC_RADCALC v4.8.22
SC		HansenM	InPrep2 4/20/2006 4:20:18 PM	RICH-RC-5016 REVISION 5
SC		AndersonE	Sep1C 4/21/2006 11:46:20 AM	RICH-RC-5087 REV 0
SC		ManisD	Sep1C 4/21/2006 11:47:06 AM	RICH-RC-5087 REV 0
SC		ManisD	Sep2C 4/21/2006 3:52:58 PM	RICH-RC-5003 REV 6
SC		DAWKINSO	InCnt1 4/21/2006 6:07:29 PM	RICH-RD-0008 REVISION 4
SC		BlackCL	CalcC 4/24/2006 7:44:37 AM	RICH-RD-0008 REVISION 4
AC		AndersonE	4/21/2006 11:46:20	
AC		ManisD	4/21/2006 11:47:06	
AC		ManisD	4/21/2006 3:52:58 PM	
AC		DAWKINSO	4/21/2006 6:07:29 PM	
AC		BlackCL	4/24/2006 7:44:37	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

STL RICHLAND

4/24/2006 4:19:10 PM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert mda	Sample Date Units Expected Yield	Volumes
31025	9HX81V30		J6B2701585	P 0514	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM	
TH-228	9NS1	2	4/22/2006 6:10:39 PM	2.4815E-01	1.641E-01	1.651E-01 5.761E-01	PCI/SA	0.922 1.0E+0 3.363E-2
TH-230	9NS1	2	4/22/2006 6:10:39 PM	8.2889E-01	2.232E-01	2.314E-01 3.429E-01	PCI/SA	0.922 1.0E+0 3.363E-2
TH-232	9NS1	2	4/22/2006 6:10:39 PM	1.7149E-01	9.901E-02	9.981E-02 1.549E-01	PCI/SA	0.922 1.0E+0 3.363E-2
31025	H3PLC1AB		J6D200000472	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM	
TH-228	9NS1	0 B	4/22/2006 6:11:04 PM	0.0E+00	0.0E+00	4.855E-03 1.074E-02	PCI/SA	0.938 1.0E+0 1.0E+0
TH-230	9NS1	0 B	4/22/2006 6:11:04 PM	1.7535E-02	8.201E-03	8.294E-03 1.75E-02	PCI/SA	0.938 1.0E+0 1.0E+0
TH-232	9NS1	0 B	4/22/2006 6:11:04 PM	0.0E+00	0.0E+00	4.474E-03 9.9E-03	PCI/SA	0.938 1.0E+0 1.0E+0
31025	H3PLC1CS		J6D200000472	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 8:15:00 AM	
TH-230	9NS1	0 S	4/22/2006 6:11:23 PM	1.6741E+00	7.143E-02	1.384E-01 2.09E-02	PCI/SA	1.8295E+00 0.917 1.0E+0 1.0E+0

6110472, **Samples Inserted | Updated | NotUpdated => 3 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 7 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Alpha Spec, Thiso by ALP , Results
Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Thiso by ALP			Richland Standard Alplso Wo Blk Subt.											
Calc	S1	AIR	HX81V3AA	TH-228	2.48E-01	(1.65E-01)	U4	PCI/SA	R	2.04E-01	5.76E-01	CRDC <i>mut</i> 92%		
Calc	S1	AIR	HX81V3AA	TH-230	8.29E-01	(2.31E-01)		PCI/SA	R	9.40E-02	3.43E-01		92%	
Calc	S1	AIR	HX81V3AA	TH-232	1.71E-01	(9.98E-02)		PCI/SA	R		1.55E-01		92%	
Calc	S1	AIR	H3PLC1AA	TH-228	0.00E+00	(4.86E-03)	U4	PCI/SA	R		1.07E-02	B	94%	
Calc	S1	AIR	H3PLC1AA	TH-230	1.75E-02	(8.29E-03)		PCI/SA	R	3.80E-03	1.75E-02	B	94%	
Calc	S1	AIR	H3PLC1AA	TH-232	0.00E+00	(4.47E-03)	U4	PCI/SA	R		9.90E-03	B	94%	
Calc	S1	AIR	H3PLC1AC	TH-228	5.94E-03	(5.96E-03)	U4	PCI/SA	R	8.42E-03	2.58E-02	S	92%	
Calc	S1	AIR	H3PLC1AC	TH-230	1.67E+00	(1.38E-01)		PCI/SA	R	6.33E-03	2.09E-02	S	92%	92%
Calc	S1	AIR	H3PLC1AC	TH-232	4.87E-03	(4.40E-03)	U4	PCI/SA	R	4.48E-03	1.72E-02	S	92%	

P Anderson
42486

() - (1s Uncertainties)
 IDC - Instrument Detection Level in Conc Units
 MLcC - Method Decision Level in Conc Units
 MDC - Minimum Detectable Concentration
 *Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
 All Results Displayed to Three Digits Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12
 RADCALC v4.8.18
 STL Richland

Batch Nbr: 6110472

Alpha Spec, Thlso by ALP , Calculated Results
Detailed Report

4/24/2006 7:38:01 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
1	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81V3AA	PCI/SA		02/05/06 08:15	04/22/06 18:10			1	1.00 SA					
536403,P 0514					J6B270158-5 v4.8.18		AIR					888.21 Alq		0.083626 SA					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/22/06 14:00	TH-228	6	4	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0787E+00	
				500.0666666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.958033		
1		04/22/06 14:00	TH-230	15	1	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.0666666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.958033		
2		04/22/06 14:00	TH-232	3	0	ALP116	COP	N	N	2.0433E-01		N	92%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.0666666	1000.1333			Y		(6.130E-03)			3%			(0.000E+00)	11.958033		
3		04/21/06 17:05	TH-234	7328	544	GPC28B	COP	Y	N	4.4600E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(6.690E-03)						(0.000E+00)	11.958033		
Sq	Calc	Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Bik	Dpm-Bik	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC				
	04/24/06		TH-228	R	0.248148	U4	7.99893E-03	0.042707	0.042707	1.00 SA	92%			0.576081					
					(0.165143)		(5.2908E-03)	(0.028318)	(0.028318)	(0.027064)				0.204102					
	04/24/06		TH-230	R	0.82889		2.89961E-02	0.153883	0.153883	1.00 SA	92%			0.342877					
					(0.231389)		(7.8092E-03)	(0.042057)	(0.042057)	(0.027064)				0.094036					
	04/24/06		TH-232	R	0.171495		5.99920E-03	0.031838	0.031838	1.00 SA	92%			0.154917					
					(0.09981)		(3.4636E-03)	(0.018441)	(0.018441)	(0.027064)									
	04/24/06		TH-234	R	4411.999158		3.65312E+02	819.085202	819.085202	1.00 SA	92%								
					(264.527177)		(4.2804E+00)	(15.59047)	(15.59047)	(0.027064)									
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
2	Calc	S1	AIR	*STLE	AlplsoWoBS	H3PLC1AA	PCI/SA	B	02/05/06 08:15	04/22/06 18:11			1	1.00 SA					
0,INTRA-LAB BLANK					J6D200000-472		AIR					889.99 Alq		1.00 SA					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0		04/22/06 14:01	TH-228	0	0	ALP117	COP	N	N	2.6295E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0787E+00	
				500.0333333	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	1.00		
1		04/22/06 14:01	TH-230	5	1	ALP117	COP	N	N	2.6295E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.0333333	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	1.00		
2		04/22/06 14:01	TH-232	0	0	ALP117	COP	N	N	2.6295E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				500.0333333	2500.0333			Y		(7.889E-03)			3%			(0.000E+00)	1.00		
3		04/21/06 17:05	TH-234	7498	617	GPC28C	COP	Y	N	4.4770E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
				20	500			Y		(6.715E-03)						(0.000E+00)	1.00		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2

RADCALC v4.8.18

STL Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
 Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2

RADCALC v4.8.18

STL Richland

286

Batch Nbr: 6110472				Alpha Spec, Thlso by ALP , Calculated Results										4/24/2006 7:38:02 AM				
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/24/06	TH-228	R	0.00E00 (0.004855)	U4	0.00000E+00 (0.00000E+00)	0.00E00 (0.009993)	0.00E00 (0.009993)	1.00 SA (0.017321)	94%		0.010744						
	04/24/06	TH-230	R	0.017535 (0.008294)		9.59934E-03 (4.4897E-03)	0.038927 (0.018296)	0.038927 (0.018296)	1.00 SA (0.017321)	94%		0.017497 0.003801						
	04/24/06	TH-232	R	0.00E00 (0.004474)	U4	0.00000E+00 (0.00000E+00)	0.00E00 (0.009933)	0.00E00 (0.009933)	1.00 SA (0.017321)	94%		0.0099						
	04/24/06	TH-234	R	375.961246 (21.131794)		3.73666E+02 (4.3298E+00)	834.6348 (15.819994)	834.6348 (15.819994)	1.00 SA (0.017321)	94%								
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
3	Calc	S1	AIR	*STLE	AlplsoWoBS	H3PLC1AC	PC/SA	S	02/05/06 08:15	04/22/06 18:11		4.0615	1	1.00 SA				
0,INTRA-LAB CHECK																		
J6D200000-472																		
AIR																		
690.22 Alq ✓																		
1.00 SA																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/22/06 14:01	TH-228	3	6	ALP118	COP	N	N	3.2289E-01		N	92%	N	1.0000E+00	4.5045E-01	1.0787E+00		
			500.0333333	2500.0166			Y		(9.687E-03)			3%		(0.000E+00)	1.00			
1	04/22/06 14:01	TH-230	551	4	ALP118	COP	N	N	3.2289E-01		N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			500.0333333	2500.0166			Y		(9.687E-03)			3%		(0.000E+00)	1.00			
2	04/22/06 14:01	TH-232	2	2	ALP118	COP	N	N	3.2289E-01		N	92%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			500.0333333	2500.0166			Y		(9.687E-03)			3%		(0.000E+00)	1.00			
3	04/21/06 17:05	TH-234	5461	520	GPC28D	COP	Y	N	4.2980E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00		
			20	500			Y		(6.447E-03)					(0.000E+00)	1.00			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC				
	04/24/06	TH-228	R	0.005943 (0.005959)	U4	3.59962E-03 (3.5998E-03)	0.012232 (0.012246)	0.012232 (0.012246)	1.00 SA (0.017321)	92%		0.025769 0.008415						
	04/24/06	TH-230	R	1.674089 (0.138356)		1.10033E+00 (4.6950E-02)	3.716481 (0.235938)	3.716481 (0.235938)	1.00 SA (0.017321)	92%	92%	0.020901 0.006331						
	04/24/06	TH-232	R	0.004868 (0.004402)	U4	3.19974E-03 (2.8843E-03)	0.010807 (0.009755)	0.010807 (0.009755)	1.00 SA (0.017321)	92%		0.017194 0.004477						
	04/24/06	TH-234	R	285.078884 (16.150537)		2.72010E+02 (3.6952E+00)	632.875756 (12.807687)	632.875756 (12.807687)	1.00 SA (0.017321)	92%								
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																		
IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																		
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time																		
Page 2												RecCnt:3		RADCALC v4.8.18				
														STL Richland				

Reference Tracer Data: Ref. Date: 24-Feb-06

Sample Tracer Data:

[illegible]

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST

C.R. Technician BSDate Counted 4/22/06C.R. Analyst BSDate Analyzed 4/24/04

Counting Time

Sample

500

Minutes

SOP's

Operating:

RICHRD008

Background See Alpha Analysis Report

Review:

RICHRD0016

Th

BRC

0110472

4/24/06
4/22/06
2221

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
					(6)	(8)	(9)		
HX8IV3AA		10		0	See Alpha Analysis Report for ROI Information			116	
H3PLCIAA		10		0	See Alpha Analysis Report for ROI Information			117	
H3PLCIAC		10		0	See Alpha Analysis Report for ROI Information			118	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Lot No., Due Date: J6B270158; 03/31/2006
Client, Site: 536403; AIR MONITORING Yerington Mine
QC Batch No., Method Test: 6115380; RTHISO Thiso by ALP
SDG, Matrix: 31025; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

5.4 Was transcription checked? Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

6.0 Comments on any No response:

See NCM.

10-07935

First Level Review

Pam Anderson

Date

4-27-06



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6115380

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?		✓	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?		✓	
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?	✓		
5. Is the LCS recovery with contract acceptance criteria?		✓	
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See NCR

Second Level Review: Sheryl A. Adams Date: 4-28-04

4/25/2006 1:01:27 PM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell
Caldwell

, Brown &

9N ThIs PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

AnalyDueDate: 03/31/2006

Batch: 6115380

FILTER

pCi/sampl

PM, Quote: EJ, 63174

SEQ Batch, Test: None All Tests: 6060317 7YSR, 6060336 9NS1, 6060337 BAS7, 6060339 BDS8, 6060342 BXTE, 6060344 BXTF, 6110472
9NS1, 6115380 9NS1,

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 HX81T-2-AA	0.833sa	508.67sa	50.22g,in	0.0822g	THTF0428					
J6B270158-4-SAMP					11/14/05,pd					
					05/23/05,r					
02/05/2006 07:45			AmtRec: FOLDER	#Containers: 1			Scr:	Alpha:		Beta:
2 H3153-1-AA-B			1.00sa,in	1.00sa	THTF0429					
J6D250000-380-BLK					11/14/05,pd					
					05/23/05,r					
02/05/2006 07:45			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:
3 H3153-1-AC-C			1.00sa,in	1.00sa	THSO0032					
J6D250000-380-LCS					11/01/05,pd					
					05/23/05,r					
02/05/2006 07:45			AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:

Comments:

All Clients for Batch:

536403, Brown and Caldwell

Brown & Caldwell

, EJ, 63174

HX81T2AA-SAMP Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H31531AA-BLK Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H31531AC-LCS:

Th-230	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20
--------	-------	---------	--------	---------	--------	--------	------	---------	--------	---------	--------

HX81T2AA-SAMP Calc Info:

Uncert Level (#s): 2

Decay to SaDt: Y

Blk Subt.: N

Sci.Not.: Y

ODRs: B

H31531AA-BLK Calc Info:

ISV - Insufficient Volume for Analysis

WO Cnt: 3

Prep_SamplePrep v4.8.22

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Clouseau Nonconformance Memo



NCM #: 10-07935	Classification: Anomaly
NCM Initiated By: Pam Anderson	Status: GLREVIEW
Date Opened: 04/27/2006	Production Area: Environmental - Sep
Date Closed:	Tests: Thlso by ALP
	Lot #'s (Sample #'s): J6B270158 (4), J6D250000 (380),
	QC Batches: 6115380
Nonconformance: Other (describe in detail)	
Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Pam Anderson	04/27/2006	<p>1 On batch 6110472 the wrong sample got reanalyzed. Sample HX81T1AA had a 143% recovery but the sample after it was the one reanalyzed by mistake. Sample HX81T was reanalyzed in batch 6115380.</p> <p>2 The yields for this batch are slightly over 115%. The LCS gives 108% recovery. Data will be accepted.</p>

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Pam Anderson	04/27/2006	The sample was reanalyzed.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
	<u>Response</u>	<u>Response Note</u>			

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
		This section not yet completed by QA.	

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
----------------------	--------------------	-----------------

4/27/2006 5:05:36 PM

Rpt DB Transfer log (Batch Results)

SEVERN
TRENT STL

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix AIR	Received Date Tot Uncert	Sample Date Units Expected Yield	Volumes
31025	9HX81T20		J6B2701584	P 0513		2/27/2006 8:00:00	2/5/2006 7:45:00 AM	
TH-228	9NS1	1	4/26/2006 7:35:38 PM	6.4239E-01	1.937E-01	2.02E-01 1.583E-01	PCI/SA 1.238	1.0E+0 3.224E-2
TH-230	9NS1	1	4/26/2006 7:35:38 PM	1.9294E+00	3.216E-01	3.648E-01 1.452E-01	PCI/SA 1.238	1.0E+0 3.224E-2
TH-232	9NS1	1	4/26/2006 7:35:38 PM	4.8236E-01	1.608E-01	1.665E-01 1.452E-01	PCI/SA 1.238	1.0E+0 3.224E-2
31025	H31531AB		J6D250000380	INTRA-LAB BLANK	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM	
TH-228	9NS1	0 B	4/26/2006 7:35:40 PM	3.7327E-03	3.733E-03	3.746E-03 1.012E-02	PCI/SA 1.221	1.0E+0 1.0E+0
TH-230	9NS1	0 B	4/26/2006 7:35:40 PM	6.1661E-03	4.893E-03	4.92E-03 1.641E-02	PCI/SA 1.221	1.0E+0 1.0E+0
TH-232	9NS1	0 B	4/26/2006 7:35:40 PM	0.0E+00	0.0E+00	4.196E-03 9.284E-03	PCI/SA 1.221	1.0E+0 1.0E+0
31025	H31531CS		J6D250000380	INTRA-LAB CHECK	AIR	2/27/2006 8:00:00	2/5/2006 7:45:00 AM	
TH-230	9NS1	0 S	4/26/2006 7:35:45 PM	1.9919E+00	7.454E-02	1.814E-01 7.56E-03	PCI/SA 1.8387E+00 1.174	1.0E+0 1.0E+0

6115380, **Samples Inserted | Updated | NotUpdated => 3 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 7 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

4/27/2006 5:05:36 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/27/2005, 5/2/2006, Batch: '6115380', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6115380				
AC	CalcC	HansenM	4/25/2006 1:06:11 PM	
SC		hansenm	IsBatched 4/25/2006 12:57:54 PM	ICOC_RADCALC v4.8.22
SC		HansenM	InPrep2 4/25/2006 1:06:11 PM	RICH-RC-5016 REVISION 5
SC		HansenM	Prep2C 4/25/2006 3:47:15 PM	RICH-RC-5016 REVISION 5
SC		ManisD	Sep2C 4/26/2006 2:38:54 PM	RICH-RC-5003 REV 6
SC		DAWKINSO	CalcC 4/27/2006 2:47:42 PM	RICH-RD-0008 REVISION 4
AC		HansenM	4/25/2006 3:47:15 PM	
AC		ManisD	4/26/2006 2:38:54 PM	
AC		DAWKINSO	4/27/2006 2:47:42 PM	

AC: Accepting Entry, SC: Status Change

STL Richland

Richland Wa.

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Thlso by ALP			Richland Standard Alplso Wo Blk Subt.											
Calc	S1	AIR	HX81T2AA	TH-228	6.42E-01	(2.02E-01)		PCI/SA	R		1.58E-01		124%	
Calc	S1	AIR	HX81T2AA	TH-230	1.93E+00	(3.65E-01)		PCI/SA	R		1.45E-01		124%	
Calc	S1	AIR	HX81T2AA	TH-232	4.82E-01	(1.66E-01)		PCI/SA	R		1.45E-01		124%	
Calc	S1	AIR	H31531AA	TH-228	3.73E-03	(3.75E-03)	U4	PCI/SA	R		1.01E-02	B	122%	
Calc	S1	AIR	H31531AA	TH-230	6.17E-03	(4.92E-03)	U4	PCI/SA	R	3.56E-03	1.64E-02	B	122%	
Calc	S1	AIR	H31531AA	TH-232	0.00E+00	(4.20E-03)	U4	PCI/SA	R		9.28E-03	B	122%	
Calc	S1	AIR	H31531AC	TH-230	1.99E+00	(1.81E-01)		PCI/SA	R		7.56E-03	S	117%	108%

P. Anderson
4-27-06

() - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC- Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significants

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:10

RADCALC v4.8.18

STL Richland

Batch Nbr: 6115380

Alpha Spec, Thlso by ALP , Calculated Results
Detailed Report

4/27/2006 2:44:46 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
1	Calc	S1	AIR	*STLE	AlplsoWoBS	HX81T2AA	PCI/SA		02/05/06 07:45	04/26/06 19:35			1	1.00 Sa					
536403,P 0513							J6B270158-4 v4.8.18	AIR				THTF0428 Alq		0.08224 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/26/06 15:25	TH-228	11	0	ALP116	COP	N	N	2.0433E-01			N	124%	N		1.0000E+00	4.5045E-01	1.0831E+00	
			500.15	1000.05				Y	(6.130E-03)				8%			(0.000E+00)	12.159464		
1	04/26/06 15:25	TH-229	515	3	ALP116	COP	Y	N	2.0433E-01			N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.15	1000.05				Y	(6.130E-03)							(0.000E+00)	12.159464		
2	04/26/06 15:25	TH-230	36	0	ALP116	COP	N	N	2.0433E-01			N	124%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.15	1000.05				Y	(6.130E-03)				8%			(0.000E+00)	12.159464		
3	04/26/06 15:25	TH-232	9	0	ALP116	COP	N	N	2.0433E-01			N	124%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.15	1000.05				Y	(6.130E-03)				8%			(0.000E+00)	12.159464		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC					
	04/27/06	TH-228	R	0.642386		2.19934E-02	0.108285	0.108285	1.00 Sa	124%			0.158261						
				(0.202007)		(6.6313E-03)	(0.033491)	(0.033491)	(0.027064)										
	04/27/06	TH-229	R	27.521039		1.02669E+00	5.024627	5.024627	1.00 Sa	124%									
				(2.147421)		(4.5407E-02)	(0.268522)	(0.268522)	(0.027064)										
	04/27/06	TH-230	R	1.929422		7.19784E-02	0.352262	0.352262	1.00 Sa	124%			0.145243						
				(0.36484)		(1.1996E-02)	(0.063528)	(0.063528)	(0.027064)										
	04/27/06	TH-232	R	0.482355		1.79946E-02	0.088066	0.088066	1.00 Sa	124%			0.145243						
				(0.166458)		(5.9982E-03)	(0.029976)	(0.029976)	(0.027064)										
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
2	Calc	S1	AIR	*STLE	AlplsoWoBS	H31531AA	PCI/SA	B	02/05/06 07:45	04/26/06 19:35			1	1.00 Sa					
0,INTRA-LAB BLANK							J6D250000-380	AIR				THTF0429 Alq		1.00 Sa					
Sq	Cnt	Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	04/26/06 15:25	TH-228	1	0	ALP117	COP	N	N	2.6295E-01			N	122%	N		1.0000E+00	4.5045E-01	1.0831E+00	
			500.0666666	2500.05				Y	(7.889E-03)				7%			(0.000E+00)	1.00		
1	04/26/06 15:25	TH-229	650	1	ALP117	COP	Y	N	2.6295E-01			N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.05				Y	(7.889E-03)							(0.000E+00)	1.00		
2	04/26/06 15:25	TH-230	2	1	ALP117	COP	N	N	2.6295E-01			N	122%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.05				Y	(7.889E-03)				7%			(0.000E+00)	1.00		
3	04/26/06 15:25	TH-232	0	0	ALP117	COP	N	N	2.6295E-01			N	122%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	2500.05				Y	(7.889E-03)				7%			(0.000E+00)	1.00		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

Page 1

RecCnt:2

RADCALC v4.8.18

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

STL Richland

Batch Nbr: 6115380				Alpha Spec, Thlso by ALP										Calculated Results				4/27/2006 2:44:47 PM	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC					
	04/27/06	TH-228	R	0.003733 (0.003746)	U4	1.99973E-03 (1.9997E-03)	0.007651 (0.007667)	0.007651 (0.007667)	1.00 Sa (0.017321)	122%				0.010116					
	04/27/06	TH-229	R	2.225998 (0.161128)		1.29943E+00 (5.0985E-02)	4.94172 (0.244078)	4.94172 (0.244078)	1.00 Sa (0.017321)	122%									
	04/27/06	TH-230	R	0.006166 (0.00492)	U4	3.59947E-03 (2.8562E-03)	0.013689 (0.010899)	0.013689 (0.010899)	1.00 Sa (0.017321)	122%				0.016408 0.003564					
	04/27/06	TH-232	R	0.00E00 (0.004196)	U4	0.00000E+00 (0.0000E+00)	0.00E00 (0.009314)	0.00E00 (0.009314)	1.00 Sa (0.017321)	122%				0.009284					
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol				
3	Calc	S1	AIR	*STLE	AlplsoWoBS	H31531AC	PCI/SA	S	02/05/06 07:45	04/26/06 19:35		THSO0032	1	1.00 Sa					
O,INTRA-LAB CHECK																			
					J6D250000-380		AIR					THSO0032 Aliq		1.00 Sa					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
1	04/26/06 15:25	TH-229	771	12	ALP118	COP	Y	N	3.2289E-01 (9.687E-03)		N	100%	N		1.0000E+00 (0.000E+00)	4.5045E-01	1.0000E+00		
2	04/26/06 15:25	TH-230	714	0	ALP118	COP	N	N	3.2289E-01 (9.687E-03)		N	117% 7%	N		1.0000E+00 (0.000E+00)	4.5045E-01	1.0000E+00		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdc/LcC					
	04/27/06	TH-229	R	2.144174 (0.151706)		1.53699E+00 (5.5544E-02)	4.760072 (0.223569)	4.760072 (0.223569)	1.00 Sa (0.017321)	117%									
	04/27/06	TH-230	R	1.991857 (0.181428)		1.42781E+00 (5.3434E-02)	4.421928 (0.327833)	4.421928 (0.327833)	1.00 Sa (0.017321)	117%	108%	0.00756							
() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU																			
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration																			
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time																			

Page 2

RecCnt:3

RADCALC v4.8.18

STL Richland

THORIUM ISOTOPIC COUNTING REQUEST

C.R. Technician CS
 Date Counted 4/26/06
 C.R. Analyst SD
 Date Analyzed 4/27/06

Counting Time
 Sample SW Minutes

SOP's
 Operating: RICHRD008

Background See Alpha Analysis Report

Review: 0/5 RICHRD0016

2345

615380

WorkOrder #	Th-229 (4845 KeV) Tracer				TOTAL COUNTS			Det #	Comment
	from Th-234 Beta Count (7)				Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
HX81TAA		10		0	See Alpha Analysis Report for ROI Information			116	
H31531AA		10		0	See Alpha Analysis Report for ROI Information			117	
H31531AC		10		0	See Alpha Analysis Report for ROI Information			116	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

THORIUM

STANDARDS AND TRACEABILITY

5/26/2006 12:05:44 PM

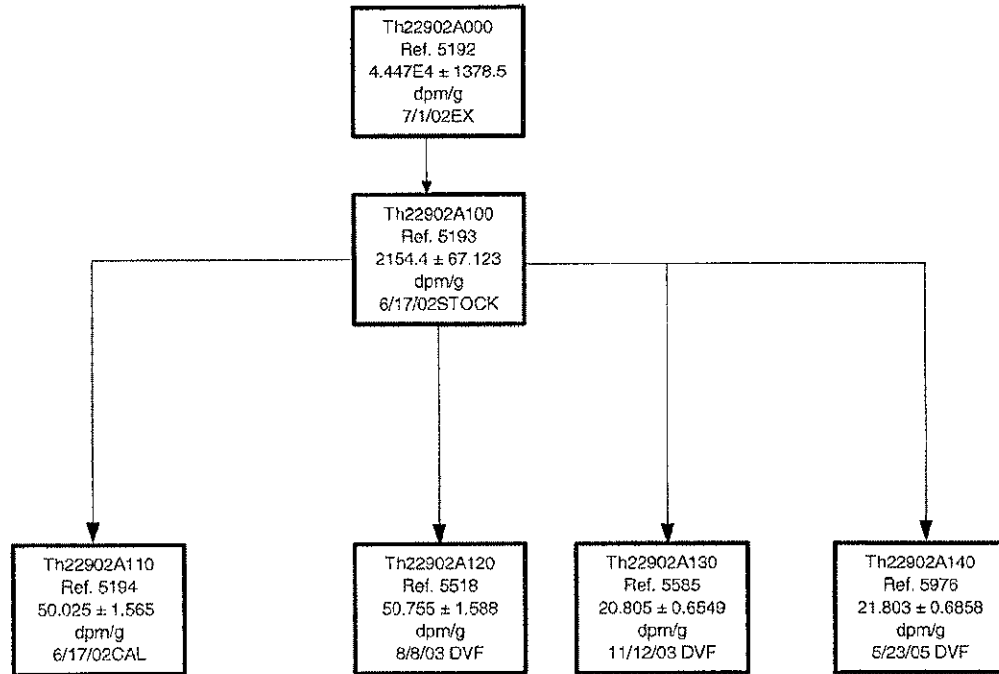
Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Between THTF0428 and THTF0429, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep, Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH22902A140		Ref: 5/23/2005	2.1803E+01	± 6.858E-01	DPM/G	
THTF0428	TH-229	4.0575E+00 ± 1.277E-01 DPM	0.1861 g	11/14/2005 11/14/2005	Armstron	2.1803E+01 ± 6.858E-01 DPM/G
THTF0429	TH-229	4.0488E+00 ± 1.274E-01 DPM	0.1857 g	11/14/2005 11/14/2005	Armstron	2.1803E+01 ± 6.858E-01 DPM/G

4.0532E+000 ± 6.167E-003 (2) 0.152% 4.0488E+000 , 4.0575E+000

Th22902A000



ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>5/23/2005</u>
3) Source Identification Number / Ref. Number	<u>TH22902A100</u>	<u>5193</u>	
4) Source Activity (dpm \pm dpm/g)	<u>2.1544E+03</u>	\pm	<u>6.712E+01</u>
5) Percent error of Source Activity	<u>3.116</u>	%	
6) Weight of Source Material used (g)	<u>1.3208</u>		
7) (% Error) of Weight of Source Material used	<u>0.3634</u>	%	
8) Diluent	<u>2M HNO3-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>130.51</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2299</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.1803E+01</u>	\pm	<u>6.858E-01</u>
12) Total Uncertainty	<u>3.146</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH22902A140</u>	<u>5976</u>	
14) Calibration Reference Date	<u>5/23/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>5/23/2005</u>	
16) Reviewed by/date	<u>sew</u>	<u>5/25/2005</u>	
17) Location <u>QCLAB/STWT1162</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>11/12/2003</u>
3) Source Identification Number / Ref. Number	<u>TH22902A100</u>	<u>5193</u>	
4) Source Activity (dpm \pm dpm/g)	<u>2.1544E+03</u>	\pm	<u>6.712E+01</u>
5) Percent error of Source Activity	<u>3.116</u>	%	
6) Weight of Source Material used (g)	<u>1.2586</u>		
7) (% Error) of Weight of Source Material used	<u>0.3814</u>	%	
8) Diluent	<u>2M HNO3-P0300629</u>		
9) Total Weight of the Dilution (g)	<u>130.33</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2302</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.0805E+01</u>	\pm	<u>6.549E-01</u>
12) Total Uncertainty	<u>3.148</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH22902A130</u>	<u>5585</u>	
14) Calibration Reference Date	<u>11/12/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		
16) Reviewed by/date	<u>SEW</u>		<u>11/13/2003</u>
17) Location <u>QCLAB/STWT0874</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>8/8/2003</u>
3) Source Identification Number / Ref. Number	<u>TH22902A100</u>	<u>5193</u>	
4) Source Activity (dpm \pm dpm/g)	<u>2.1544E+03</u>	\pm	<u>6.712E+01</u>
5) Percent error of Source Activity	<u>3.116</u>	%	
6) Weight of Source Material used (g)	<u>3.1194</u>		
7) (% Error) of Weight of Source Material used	<u>0.1539</u>	%	
8) Diluent	<u>2M HNO3-P0300349</u>		
9) Total Weight of the Dilution (g)	<u>132.41</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2266</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.0755E+01</u>	\pm	<u>1.588E+00</u>
12) Total Uncertainty	<u>3.128</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH22902A120</u>	<u>5518</u>	
14) Calibration Reference Date	<u>8/8/2003</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>8/8/2003</u>	
16) Reviewed by/date	<u>SEW</u>	<u>8/18/2003</u>	
17) Location	<u>QCLAB/STWT0825</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>6/17/2002</u>
3) Source Identification Number / Ref. Number		TH22902A100	5193
4) Source Activity (dpm \pm dpm/g)	<u>2.1544E+03</u>	\pm	<u>6.712E+01</u>
5) Percent error of Source Activity	<u>3.116</u>	%	
6) Weight of Source Material used (g)	<u>3.0295</u>		
7) (% Error) of Weight of Source Material used	<u>0.1584</u>	%	
8) Diluent	<u>2M HNO3-P0200009</u>		
9) Total Weight of the Dilution (g)	<u>130.47</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2299</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.0025E+01</u>	\pm	<u>1.565E+00</u>
12) Total Uncertainty	<u>3.128</u>	%	
13) Dilution Identification Number / Ref. Number		TH22902A110	5194
14) Calibration Reference Date	<u>6/17/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>6/17/2002</u>
16) Reviewed by/date	<u>SEW</u>		<u>7/17/2002</u>
17) Location	<u>QCLAB/STWT0606</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>6/17/2002</u>
3) Source Identification Number / Ref. Number	<u>TH22902A000</u>	<u>5192</u>	
4) Source Activity (dpm ± dpm/g)	<u>4.4467E+04</u>	±	<u>1.378E+02</u>
5) Percent error of Source Activity	<u>3.1</u>	%	
6) Weight of Source Material used (g)	<u>4.9234</u>		
7) (% Error) of Weight of Source Material used	<u>0.0975</u>	%	
8) Diluent	<u>2M HNO3-P0200009</u>		
9) Total Weight of the Dilution (g)	<u>101.62</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2952</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.1544E+03</u>	±	<u>6.712E+01</u>
12) Total Uncertainty	<u>3.116</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH22902A100</u>	<u>5193</u>	
14) Calibration Reference Date	<u>6/17/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>6/17/2002</u>	
16) Reviewed by/date	<u>SEW</u>	<u>7/17/2002</u>	
17) Location <u>QCLAB/STWT0605</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3



ISOTOPE RECORD FORM

1) Isotope TH229 2) Reference Number 5192
3) Half Life 7340 ±160 yrs 4) Storage Location Std Lab
5) Source Identification Number Th22902A000

CALIBRATION DATA

6) Activity as Received Units 20.03 nCi/g
7) Overall Uncertainty Percent 3.1%
8) Reference Date / Time JULY-01-02 12:00 PST (12:00 PM)
9) Activity dpm/g 44466.6 ± 1378.46 dpm/g
10) Volume or Mass (ml/g) 4.95606 g
11) Calibrated by IPL
12) Certificate Solution Number 943-3

SURVEY DATA

13) Date Received 6/13/2002
14) Surveyed by W.G
15) Survey Reading (Beta/Gamma) cpm <100 cpm
16) Survey Reading (Alpha) cpm <100 cpm

17) Activity Conversion 20.03 nCi/g *2.22E+03 dpm/nCi=44466.6± 1378.46 (3.1%)dpm/g

18) Remarks Used all to make first dilution 6/17/02 WG

19) Isotope File Updated by W.G 6/14/02

20) QC Approved SEW 7/17/02



Isotope Products Laboratories

An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

115192

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide:	Th-229	Customer:	SEVERN TRENT LABORATORIES, INC.		
Half-life:	7340 ± 160 years	P.O. No.:	1424016-000 OP		
Catalog No.:	7229	Reference Date:	1-Jul-02	12:00	PST
Source No.:	943-3	Contained Radioactivity:	99.26	nCi	3673 Bq
		(Th-229 only)			

Physical Description:

A. Mass of solution:	4.95606 g in 5 mL flame-sealed ampoule
B. Chemical form:	Th(NO ₃) ₄ in 0.1M HNO ₃
C. Carrier content:	None
D. Density:	1.0016 g/mL @ 20°C.

Radioimpurities:

None detected (daughters in equilibrium)

Radionuclide Concentration: 20.03 nCi/g, 741.1 Bq/g

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in µCi/g was determined using gamma ray spectrometry.

Peak energy used for integration:

193.5 keV

Branching ratio used:

0.0441 gammas per decay

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.9 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.1 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA Technical Reports Series No. 261, 1986.
- This solution has a working life of 5 years.

Quality Control

12-Jun-02
Date Signed

IPL Ref. No.: 943-3

ISO 9001 CERTIFIED

Medical Imaging Laboratory

24937 Avenue Tibbitts Valencia, California 91355

STL RICHLAND

Industrial Gauging Laboratory

1800 North Keystone Street Burbank, California 91504

ISOTOPE RECORD FORM

1) Isotope	<u>Th229</u>	2) Reference Number	<u>5192</u>
3) Half Life	<u>7340 ± 160 years</u>	4) Storage Location	<u>QC Lab</u>
5) Source Identification Number	<u>Th22902A000</u>		
***** CALIBRATION DATA *****			
6) Activity as Received Units	<u>20.03 nCi/g</u>		
7) Overall Uncertainty Percent	<u>3.17%</u>		
8) Reference Date / Time	<u>6-1-02 7-1-02 12:00 PST (12:00pm)</u>		
9) Activity dpm/g	<u>44466.6 44466.6 ± 1378.46 dpm/g</u>		
10) Volume or Mass (mL /g)	<u>4.95606 g</u>		
11) Calibrated by	<u>Isotope Products</u>		
12) Certificate Solution Number	<u>943-3</u>		
***** SURVEY DATA *****			
13) Date Received	<u>6/13/02</u>		
14) Surveyed by	<u>WA</u>		
15) Survey reading (Beta/Gamma) cpm	<u>< 100 cpm</u>		
16) Survey Reading (Alpha) cpm	<u>< 100 cpm</u>		
17) Activity Conversion	<u>20.03 nCi/g * 2.22 x 10³ dpm/nCi = 44466.6 ± 1378.46 dpm/g</u>		
18) Remarks			
19) Isotope File Updated by	<u>WA 6/14/02</u>		
20) QC Approved			

6/14/02 1:32:08 PM

Standard Materials

Std Rec : 1/27/75 to 6/15/02, SMIdentifier Like: TH22902A000%, *All Suppliers , Excluding Consumed Std , Order by SMIdentifier

SM Identifier	SM Identifier2	Quantity	Density	Store Loc	Supplier	Supplier Id and Lot	Rec Date	Ref Date
TH22902A000	5192	4.95606 G		QCLAB	ISOTOPE	943-3	6/13/02	7/1/02
	TH-229	4.4467E+04 ± 1.378E+03 DPM/G				Decayed Activity: 4.4467E+04		± 1.378E+03
						Total Activity: 2.2038E+005		DPM

<i>General Information</i>	
Chemical Name: NITRIC ACID	Chemical formula: HNO ₃
Chemical Family: Inorganic Acid	CAS No: 7697-37-2
Proper DOT shipping name: Nitric Acid Solution	DOT Hazard classification: Class B
Manufacturer: Mallinckrodt Baker, Inc	Manufacturer's Phone Number: (800) 582-2537
Manuf.'s Address: 222 Red School Lane, Phillipsburg, NJ 08865	
24-hour emergency phone number: (908) 859-2151	Chemtrec Phone Number: 1-800-424-9300
<i>Composition/Ingredients</i>	
Nitric Acid: Up to 40%	Threshold Limit Value: 2 Parts Per Million (PPM) 5mg/m ³
<i>Physical and Chemical properties</i>	
Boiling Point: 121 C	Evaporation rate of H ₂ O: N/A
Vapor Density: 2 to 3 G/L,	Specific Gravity (H ₂ O=1): 1.41
Colorless to pale yellow liquid with suffocating odor	Vapor pressure 62 at 20 degree C mmHg
Solubility in water: Infinite	pH: 0-3.0
<i>Fire & Explosion Hazard Data</i>	
Flash Point: N/A	Auto ignition temperature: N/A
Extinguishing Medium: Water Spray	Flammable Units: N/A
Special fire fighting procedure: Full protective and NIOSH approved positive pressure SCBA should be worn	
* May produce airborne radioactive materials during fire. Consult Health Physics/Radiation Safety Staff	
<i>Hazards Identification</i>	
Local effects: Corrosive-inhalation, skin, eyes, ingestion	Corrosive- 100ppm immediately dangerous to life and health
<i>Routes of exposure and First Aid</i>	
If inhaled-remove to fresh air	If swallowed-wash out mouth with water
In case of contact with eyes- Flush with plenty of water	In case of skin contact-Immediately wash with soap and water
<i>Stability and Reactivity</i>	
Stability: Stable	Condition to avoid: High heat, react exothermically w/water
Incompatibility (materials to avoid): Strong bases, cyanides, metallic powders, carbides, hydrogen sulfide, combustible organics.	
Hazardous Decomposition products: Upon heating, evolve NO _x and hydrogen nitrate; react with steam to produce corrosive fumes	
<i>Accidental Release Measures</i>	
Ventilate area of leak or spill, Isolate hazard area and wash spill site after material pickup is complete. Wear protective equipment.	
<i>Handling and Storage</i>	
Keep container tightly sealed, store in room temperature in a tightly closed containers. Ensure good ventilation at the workplace. Protect from physical damage.	
<i>Exposure Controls/Personal Protection</i>	
OSHA Permissible Exposure Limit (PEL) – 2ppm	ACGIH Threshold Limit Value - 2ppm TWA
Personal protective equipment and general protective and hygienic practices should be followed when handling this material.	
<i>Environmental Protection Procedures</i>	
Spill response: Assure adequate ventilation in area of spill or positive pressure SCBA as required. Flush with water and neutralize with alkaline material (soda ash, lime). Treat as radioactive spill.	
<i>Waste Disposal Method</i>	
Radioactive material. Notify Health Physics/Radiation Safety Officer	
<i>Protective Equipment</i>	
Eye Protection: Chemical Safety Goggles, emer. wash facility Skin Protection: Gloves, Apron or Lab Coat	
Respiratory Protection (Special type): Consult with HP Staff	Ventilation Recommended: Consult HP staff
Other precaution: Handling of this material should be done in according with prescribed radioactive materials handling procedures	
<i>Special Precaution</i>	
Hygienic Practices in handling and storing: Store in cool, dry storage area. Protect from physical damage. Consult with Health - physics/Radiation Safety Officer.	
Procedures for Repair & Maintenance of contaminated equipments: Consult with Health Physics. Treat contaminated equipment as radioactive contamination problem.	
CAUTION: Contains radioactive material, which, although beyond the scope of MSDS requirements, should be considered the principal hazard. This material should be handled only by trained individuals in conformance with 10CFR requirements.	

5/26/2006 12:05:53 PM

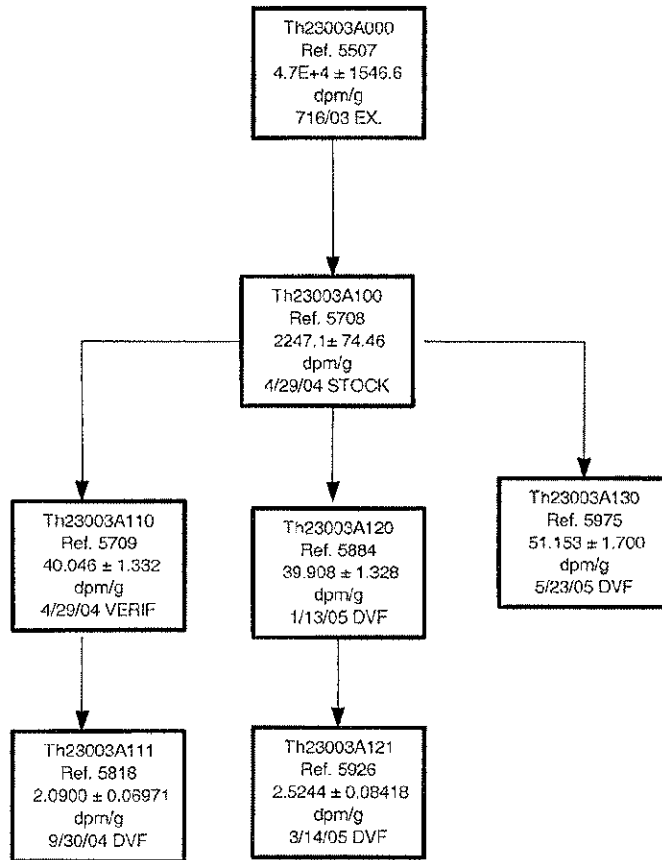
Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Like: THSO0032%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep, Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH22902A140		Ref: 5/23/2005	2.1803E+01	± 6.858E-01	DPM/G	
THSO0032	TH-229	4.0532E+00 ± 1.275E-01 DPM	0.1859 g	11/1/2005 11/1/2005	Armstrong	2.1803E+01 ± 6.858E-01 DPM/G
		4.0532E+000 ± 4.053E+000 (1)		4.0532E+000 , 4.0532E+000		

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23003A130		Ref: 5/23/2005	5.1153E+01	± 1.700E+00	DPM/G	
THSO0032	TH-230	4.0820E+00 ± 1.359E-01 DPM	0.0798 g	11/1/2005 11/1/2005	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
		4.0820E+000 ± 4.082E+000 (1)	4.0820E+000 , 4.0820E+000			

Th23003A



ISOTOPE DILUTION RECORD

1) Prepared by W.G 2) Date Prepared 5/23/2005

3) Source Identification Number / Ref. Number TH23003A100 5708

4) Source Activity (dpm \pm dpm/g) 2.2471E+03 \pm 7.446E+01

5) Percent error of Source Activity 3.314 %

6) Weight of Source Material used (g) 3.1833

7) (% Error) of Weight of Source Material used 0.1508 %

8) Diluent 2M HNO3-P0500135

9) Total Weight of the Dilution (g) 139.84

10) (% Error) of Total Weight of the Dilution 0.2145 %

11) Specific Activity of Diluted Solution dpm/g 5.1153E+01 \pm 1.700E+00

12) Total Uncertainty 3.324 %

13) Dilution Identification Number / Ref. Number TH23003A130 5975

14) Calibration Reference Date 5/23/2005

15) Isotope Inventory File update by/date W.G 5/23/2005

16) Reviewed by/date sew 5/25/2005

17) Location QCLAB/STWT1161 18) Exhausted

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity } ^2 + \% \text{ error of Wt. Used } ^2 + \% \text{ error of Dilution Wt. } ^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/14/2005</u>
3) Source Identification Number / Ref. Number		TH23003A120	5884
4) Source Activity (dpm \pm dpm/g)	<u>3.9908E+01</u>	\pm	<u>1.328E+00</u>
5) Percent error of Source Activity	<u>3.327</u>	%	
6) Weight of Source Material used (g)	<u>8.5965</u>		
7) (% Error) of Weight of Source Material used	<u>0.0558</u>	%	
8) Diluent	<u>2M HNO3-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>135.9</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2208</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.5244E+00</u>	\pm	<u>8.418E-02</u>
12) Total Uncertainty	<u>3.335</u>	%	
13) Dilution Identification Number / Ref. Number		TH23003A121	5926
14) Calibration Reference Date	<u>3/14/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>3/14/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>3/14/2005</u>
17) Location	<u>QCLAB/STWT1125</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>1/13/2005</u>
3) Source Identification Number / Ref. Number		<u>TH23003A100</u>	<u>5708</u>
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>2.4647</u>		
7) (% Error) of Weight of Source Material used	<u>0.1947</u>	%	
8) Diluent	<u>2M HNO3-P0400766</u>		
9) Total Weight of the Dilution (g)	<u>138.78</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2162</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>3.9908E+01</u>	±	<u>1.328E+00</u>
12) Total Uncertainty	<u>3.327</u>	%	
13) Dilution Identification Number / Ref. Number		<u>TH23003A120</u>	<u>5884</u>
14) Calibration Reference Date	<u>1/13/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>1/13/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/14/2005</u>
17) Location	<u>QCLAB/STWT1105</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$ Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/30/2004</u>
3) Source Identification Number / Ref. Number		<u>TH23003A110</u>	<u>5709</u>
4) Source Activity (dpm \pm dpm/g)	<u>4.0046E+01</u>	\pm	<u>1.332E+00</u>
5) Percent error of Source Activity	<u>3.327</u>	%	
6) Weight of Source Material used (g)	<u>6.9826</u>		
7) (% Error) of Weight of Source Material used	<u>0.0687</u>	%	
8) Diluent	<u>2M HNO3-P0400528</u>		
9) Total Weight of the Dilution (g)	<u>133.79</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2242</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.0900E+00</u>	\pm	<u>6.971E-02</u>
12) Total Uncertainty	<u>3.335</u>	%	
13) Dilution Identification Number / Ref. Number		<u>TH23003A111</u>	<u>5818</u>
14) Calibration Reference Date	<u>9/30/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>9/30/2004</u>
16) Reviewed by/date	<u>SEW</u>		<u>10/6/2004</u>
17) Location	<u>QCLAB/STWT1059</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>4/29/2004</u>
3) Source Identification Number / Ref. Number		<u>TH23003A100</u>	<u>5708</u>
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>2.4577</u>		
7) (% Error) of Weight of Source Material used	<u>0.1953</u>	%	
8) Diluent	<u>2M HNO3-PC400176</u>		
9) Total Weight of the Dilution (g)	<u>137.91</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2175</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>4.0046E+01</u>	±	<u>1.332E+00</u>
12) Total Uncertainty	<u>3.327</u>	%	
13) Dilution Identification Number / Ref. Number		<u>TH23003A110</u>	<u>5709</u>
14) Calibration Reference Date	<u>4/29/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>4/29/2004</u>
16) Reviewed by/date	<u>D.M.</u>		<u>6/2/2004</u>
17) Location	<u>QCLAB/STWT0990</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by W.G 2) Date Prepared 4/29/2004

3) **Source Identification Number / Ref. Number** TH23003A000 5507

4) Source Activity (dpm \pm dpm/g) 4.6866E+04 \pm 1.547E+03

5) Percent error of Source Activity 3.3 %

6) Weight of Source Material used (g) 5.0580

7) (% Error) of Weight of Source Material used 0.0949 %

8) Diluent 2M HNO3-P0400176

9) Total Weight of the Dilution (g) 105.49

10) (% Error) of Total Weight of the Dilution 0.2844 %

11) **Specific Activity of Diluted Solution dpm/g** 2.2471E+03 \pm 7.446E+01

12) Total Uncertainty 3.314 %

13) **Dilution Identification Number / Ref. Number** TH23003A100 5708

14) Calibration Reference Date 4/29/2004

15) Isotope Inventory File update by/date W.G 4/29/2004

16) Reviewed by/date D.M. 6/2/2004

17) Location QCLAB/STWT0989 18) Exhausted

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3



ISOTOPE RECORD FORM

1) Isotope TH230 2) Reference Number 5507
3) Half Life 7.54E4 yrs 4) Storage Location Std Lab
5) Source Identification Number TH23003A000

CALIBRATION DATA

6) Activity as Received Units 3.979E+03 dps
7) Overall Uncertainty Percent 3.30%
8) Reference Date / Time 7/16/2003 12:00 EST (9:00AM)
9) Activity dpm/g 4.6866E+04 ± 1546.59 (3.3%) dpm/g
10) Volume or Mass (ml/g) 5.09407g
11) Calibrated by ANALY
12) Certificate Solution Number 66538-310

SURVEY DATA

13) Date Received 7/18/2003
14) Surveyed by W.G
15) Survey Reading (Beta/Gamma) cpm <100 CPM
16) Survey Reading (Alpha) cpm <100 CPM

17) Activity Conversion 3979.0 dps x60sm/5.09407g=4.7E+04± 1546.6 (3.3%)dpm/g

18) Remarks USED ALL TO MAKE FIRST DILUTION 4/29/4 WG

19) Isotope File Updated by W.G 7/29/03

20) QC Approved SEW 8/1/03

ANALYTICS



#5507
Rec'd
7-18-03

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 • U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

66538-310

Th-230 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting.

Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry and liquid scintillation counting. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Th-230
ACTIVITY (dps):	3.979 E3
HALF-LIFE:	7.538 E4 years
CALIBRATION DATE:	July 16, 2003 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ -impurities <0.1%, α -impurities <0.23%

5.09407 grams 0.5M HNO₃ solution.

Master Solution ID#: P86V105

P O NUMBER 1875386-000 OP, Item 1

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

J. M. Montgomery 7-16-03

5/26/2006 12:06:18 PM

Standard Material Fractions (Vials)

Vial Prep: 5/25/05 to 5/27/06, SMFractionIdentifier Between THTC9385 and THTC9390, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23406B100		Ref: 2/24/2006	4.9160E+03	± 3.176E+02	CPM/G	
THTC9385	TH-234	4.9936E+02 ± 3.226E+01 CPM	0.2735 g	3/30/2006 3/30/2006	Armstron	1.8258E+03 ± 1.179E+02 CPM/G
THTC9386	TH-234	5.0045E+02 ± 3.233E+01 CPM	0.2741 g	3/30/2006 3/30/2006	Armstron	1.8258E+03 ± 1.179E+02 CPM/G
THTC9387	TH-234	5.0281E+02 ± 3.248E+01 CPM	0.2754 g	3/30/2006 3/30/2006	Armstron	1.8258E+03 ± 1.179E+02 CPM/G
THTC9388	TH-234	5.0044E+02 ± 3.233E+01 CPM	0.2741 g	3/30/2006 3/30/2006	Armstron	1.8258E+03 ± 1.179E+02 CPM/G
THTC9389	TH-234	5.0099E+02 ± 3.236E+01 CPM	0.2744 g	3/30/2006 3/30/2006	Armstron	1.8258E+03 ± 1.179E+02 CPM/G
THTC9390	TH-234	5.0080E+02 ± 3.235E+01 CPM	0.2743 g	3/30/2006 3/30/2006	Armstron	1.8257E+03 ± 1.179E+02 CPM/G
5.0081E+002 ± 1.133E+000 (6) 0.226% 4.9936E+002 , 5.0281E+002						



Memorandum

Date: 27 February 2006
To: Count Room & Team Leaders
From: Tim Armstrong
Subject: New Th-234 Source {Th23406B100 #6058}

There is a new Th-234 source Th23406B100 #6058

With a reference date of 24 February 2006

CAL ID	GRAMS FOUND	REFERENCE DATE
CAL5734	0.0757	24 Feb 06
CAL5735	0.0762	24 Feb 06
CAL5736	0.0749	24 Feb 06
CAL5737	0.0744	24 Feb 06

TH-234 CALIBRATION CALCULATIONS

SEVERN
TRENT
SERVICES

Std ID: **TH23406B100 #6058**Date: **24-Feb-06**

Tracer Yield Calculations

Th-230 Isotopic Counts

Vial	Th-230		Background		Net cpm	Det. Eff	Expected dpm	Yield
	Counts	Min	Counts	Min				
CAL5734	6512	999	2	999	6.517	0.2908	25.131	0.8917
CAL5735	6362	999	2	999	6.366	0.2995	25.075	0.8478
CAL5736	5029	999	1	999	5.033	0.2537	25.065	0.7915
CAL5737	4630	999	0	999	4.635	0.2481	25.045	0.7459

0

22-Feb-06 = Source Reference Date**12:00** = Source Reference Time

SET 30A-30D Reference Data

Thorium Beta Data

Date	Th-234		Min	Background		Net cpm	Decay	Th234 wt. grams	Th230 Yield	Th234 cpm/g	Vial
	Time	Cts		Cts	Min						
24-Feb-06	6:54	6064	20	668	500	301.86	1.0528	0.0757	0.8917	4707.95	CAL5734
24-Feb-06	6:54	5656	20	779	500	281.24	1.0528	0.0762	0.8478	4583.36	CAL5735
24-Feb-06	6:54	5910	20	721	500	294.06	1.0528	0.0749	0.7915	5222.00	CAL5736
24-Feb-06	6:54	5452	20	545	500	271.51	1.0528	0.0744	0.7459	5150.78	CAL5737

Th234 YIELD CORRECTION FOR DATA HANDLERS

Th234 wt. g * Th230 YIELD

CAL5734 0.0675

CAL5735 0.0646

CAL5736 0.0593

CAL5737 0.0555

4916.02 Average**6.46% %RSD****-6.77% Min Bias****6.22% Max Bias****0.0000****4.9160E+03** = Rad Calc. expected value, cpm/g**4.7646E+02** = Total Error of Rad Calc. expected value**22-Feb-06** = Reference Date of Rad Calc. expected value**12:00** = Reference Time of Rad Calc. expected value



STL

COUNTING REQUEST

Type of count: Alpha: _____ count time: _____ units: _____
Beta: _____ count time: _____ units: _____
Gamma: _____ count time: _____ Geom.: _____ units: _____
Alpha Spec: X count time: 1000 units: dpm/Sa

Requested by: TDA

Date submitted: 2/24/06

	Sample ID	Isotopes of interest	Sample Date
171	CAL 5734	Th234 668100 # 6058	
172	5735		
173	5736		
174	5737		
175	5738	Th234 only	
176	5739	Purity check	

ADDITIONAL INSTRUCTIONS:

T06 00 44 Cop RICH RC 5003 PUX6

#T060044

FORM NO. RC-097, 8/00, REV 1

Reference Tracer Data: Ref. Date: 21-Nov-05

Average DPM/g of tracer =	556.92
---------------------------	--------

[illegible]

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23406B100		Ref: 2/22/2006	7.5458E+03	± 2.919E+02	CPM/G	
CAL5734	TH-234	5.3328E+02 ± 2.065E+01 CPM	0.0757 g	2/24/2006 2/24/2006	Armstron	7.0446E+03 ± 2.725E+02 CPM/G
CAL5735	TH-234	5.3677E+02 ± 2.079E+01 CPM	0.0762 g	2/24/2006 2/24/2006	Armstron	7.0442E+03 ± 2.725E+02 CPM/G
CAL5736	TH-234	5.2760E+02 ± 2.044E+01 CPM	0.0749 g	2/24/2006 2/24/2006	Armstron	7.0441E+03 ± 2.725E+02 CPM/G
CAL5737	TH-234	5.2408E+02 ± 2.030E+01 CPM	0.0744 g	2/24/2006 2/24/2006	Armstron	7.0440E+03 ± 2.725E+02 CPM/G
CAL5738	TH-234	5.3111E+02 ± 2.057E+01 CPM	0.0754 g	2/24/2006 2/24/2006	Armstron	7.0440E+03 ± 2.725E+02 CPM/G
CAL5739	TH-234	5.3534E+02 ± 2.073E+01 CPM	0.076 g	2/24/2006 2/24/2006	Armstron	7.0439E+03 ± 2.725E+02 CPM/G
5.3136E+002 ± 4.816E+000 (6) 0.906% 5.2408E+002 , 5.3677E+002						

2/24/2006 9:29:53 AM

Standard Material Fractions (Vials)

Vial Prep: 2/23/05 to 2/25/06, SMFractionIdentifier Between cal5734 and cal5739, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23003A130		Ref: 5/23/2005	5.1153E+01	± 1.700E+00	DPM/G	
CAL5734	TH-230	2.5131E+01 ± 8.352E-01 DPM	0.4913 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5735	TH-230	2.5075E+01 ± 8.334E-01 DPM	0.4902 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5736	TH-230	2.5065E+01 ± 8.330E-01 DPM	0.49 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5737	TH-230	2.5045E+01 ± 8.324E-01 DPM	0.4896 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5738	TH-230	0.0000E+00 ± 7.234E-03 DPM	0 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5739	TH-230	0.0000E+00 ± 7.234E-03 DPM	0 g	2/24/2006 2/24/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G

1.6719E+001 ± 1.295E+001 (6) 77.460% 0.0000E+000 , 2.5131E+001

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST

2/25
0912

C.R. Technician OPD
 Date Counted 2/24/06
 C.R. Analyst OPD
 Date Analyzed 2/25/06

Counting Time
 Sample 1000 Minutes

SOP's
 Operating: RICHRD008

Background See Alpha Analysis Report

Review: RICHRD0016

STLR

2/24/06

TO 60044

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
					(6)	(8)	(9)		
CAL 5734		10		0	See Alpha Analysis Report for ROI Information			171	
CAL 5735		10		0	See Alpha Analysis Report for ROI Information			172	
CAL 5736		10		0	See Alpha Analysis Report for ROI Information			173	
CAL 5737		10		0	See Alpha Analysis Report for ROI Information			174	
CAL 5738		10		0	See Alpha Analysis Report for ROI Information			175	
CAL 5739		10		0	See Alpha Analysis Report for ROI Information			176	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Th23406B100 - 6058
 22-Feb-06 = Source Reference Date 8:00 = Source Reference Time

SET 27A-27D Reference Data

Thorium Beta Data									
Date	Time	Th-234	Background		Min	Net cpm	Decay	Th234 wt.	Th234
		Cts	Min	Cts				grams	cpm/g
22-Feb-06	8:46	15677	20	554	500	782.74	1.0009	0.1070	7322.07
22-Feb-06	8:46	15254	20	607	500	761.49	1.0009	0.1010	7546.40
22-Feb-06	8:46	16278	20	579	500	812.74	1.0009	0.1082	7518.38
22-Feb-06	8:46	15895	20	512	500	793.73	1.0009	0.1019	7796.42
Average						787.67	Average		
							7545.82		
							%RSD 2.58%		
							Min Bias -2.97%		
							Max Bias 3.32%		

Th23406B100 - 6058

7.5458E+03	= VAX expected value, cpm/g (entered as dpm in Vax)
2.9192E+02	= Total Error of VAX expected value
22-Feb-06	= Reference Date of VAX expected value
8:00	= Reference Time of VAX expected value

TH-234 INITIAL DILUTION CALCULATION

{A} INITIAL BETA COUNT ACTIVITY	7545.82 cpm/g
{B} INITIAL VOLUME	520.00 mL
{C} INITIAL ACTIVITY DESIRED	5000 cpm/g
{D} PROPOSED TOTAL VOLUME	784.77 mL
{E} PROPOSED VOLUME TO ADD NOT NECESSARY TO BE EXACT	264.77 mL
{F} ACTUAL VOLUME ADDED	0.00 mL
{G} ACTIVITY	7545.82 cpm/g

$$A * B / C = D \quad D - B = E$$

$$B / (B + F) * A = G$$

TO CALCULATE THE NET CPM BETA AND ALPHA FOR TH234 EVALUATION

Th234 Std. ID: TH23406B100 - 6058

DATE: 2/22/2006

SAMPLE ID	total cts. Beta	beta ct. time	Bkg. Cts. beta	beta Bkg. ct. time	total cts. alpha	alpha ct. time	Bkg. Cts. alpha	alpha Bkg. ct. time	Net beta CPM	Net Alpha CPM	1% net beta
RDQC8204	15677	20	554	500	6	50	17	500	782.742	0.086	7.83
RDQC8205	15254	20	573	500	2	50	12	500	761.554	0.016	7.62
RDQC8206	16278	20	495	500	3	50	12	500	812.91	0.036	8.13
RDQC8207	15895	20	453	500	5	50	23	500	793.844	0.054	7.94
									#DIV/0!	#DIV/0!	#DIV/0!
									#DIV/0!	#DIV/0!	#DIV/0!
									#DIV/0!	#DIV/0!	#DIV/0!
									#DIV/0!	#DIV/0!	#DIV/0!

SEVERN
TRENT

STL

THORIUM ISOTOPIC COUNTING REQUEST

2/24 024

C.R. Technician IB
Date Counted 2/23/04Counting Time
Sample 1000 MinutesSOP's
Operating: RICHRD008C.R. Analyst 0
Date Analyzed 2/24/04Background See Alpha Analysis ReportReview: 2/22 RICHRD0016

STL

2/22

TC16UCB0

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
					(6)	(8)	(9)		
Cal 5728		10		0	See Alpha Analysis Report for ROI Information			171	
Cal 5729		10		0	See Alpha Analysis Report for ROI Information			172	
Cal 5730		10		0	See Alpha Analysis Report for ROI Information			173	
Cal 5731		10		0	See Alpha Analysis Report for ROI Information			174	
Cal 5732		10		0	See Alpha Analysis Report for ROI Information			175	
Cal 5733		10		0	See Alpha Analysis Report for ROI Information			176	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

2/22/2006 7:29:31 PM

Standard Material Fractions (Vials)

Vial Prep: 2/21/05 to 2/23/06, SMFractionIdentifier Between CAL5728 and CAL5733, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23003A130		Ref: 5/23/2005	5.1153E+01	± 1.700E+00	DPM/G	
CAL5728	TH-230	2.5029E+01 ± 8.318E-01 DPM	0.4893 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5729	TH-230	2.4809E+01 ± 8.245E-01 DPM	0.485 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5730	TH-230	0.0000E+00 ± 7.234E-03 DPM	0 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5731	TH-230	2.4988E+01 ± 8.305E-01 DPM	0.4885 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5732	TH-230	0.0000E+00 ± 7.234E-03 DPM	0 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G
CAL5733	TH-230	0.0000E+00 ± 7.234E-03 DPM	0 g	2/22/2006 2/22/2006	Armstron	5.1153E+01 ± 1.700E+00 DPM/G

1.2471E+001 ± 1.368E+001 (6)

0.0000E+000 , 2.5029E+001



STL

COUNTING REQUEST

Type of count: Alpha: _____ count time: _____ units: _____
Beta: _____ count time: _____ units: _____
Gamma: _____ count time: _____ Geom.: _____ units: _____
Alpha Spec: Y count time: 1000 units: dpm/Sa

Requested by: TDJ

Date submitted: 2/22/06

Sample ID	Isotopes of interest	Sample Date
CAL5728	Th234 06B100-605B	
5729	Th230 03A130-5975	
5730		
5731		
CAL5732	Th234 only	
5733	Purity check	

ADDITIONAL INSTRUCTIONS:

T060030

cop

[illegible]

T060030

Reference Tracer Data: Ref. Date: 21-Nov-05

Average DPM/g of tracer = 598.40

[illegible]

509

TH-234 CALIBRATION CALCULATIONS

Std ID: **TH23406B100 #6032**Date: **22-Feb-06**

Tracer Yield Calculations

Th-230 Isotopic Counts

Vial	Th-230		Background		Net cpm	Det. Eff	Expected dpm	Yield
	Counts	Min	Counts	Min				
CAL5728	6200	1000	3	1000	6.197	0.2909	25.029	0.8511
CAL5729	7470	1000	4	1000	7.466	0.2995	24.809	1.0048
CAL5731	5190	1000	0	1000	5.190	0.2481	24.988	0.8372

0

21-Feb-06 = Source Reference Date**12:00** = Source Reference Time

SET 30A-30D Reference Data

Thorium Beta Data

Date	Th-234		Background		Net cpm	Decay	Th234 wt. grams	Th230 Yield	Th234 cpm/g	Vial
	Time	Cts	Min	Cts	Min					
22-Feb-06	19:12	61642	20	848	500	3080.40	1.0381	0.6772	0.8511	CAL5728
22-Feb-06	19:12	61078	20	691	500	3052.52	1.0381	0.6745	1.0048	CAL5729
22-Feb-06	19:12	61343	20	700	500	3065.75	1.0381	0.6756	0.8372	CAL5731

Th234 YIELD CORRECTION FOR DATA HANDLERS

Th234 wt. g * Th230 YIELD

CAL5728 0.5764

CAL5729 0.6777

CAL5731 0.5656

5283.50 Average**9.99% %RSD****-11.51% Min Bias****6.50% Max Bias****0.0000**

5.2835E+03	= Rad Calc. expected value, cpm/g
9.1450E+02	= Total Error of Rad Calc. expected value
21-Feb-06	= Reference Date of Rad Calc. expected value
12:00	= Reference Time of Rad Calc. expected value

SEVERN

TRENT

SERVICES

SEVERN

TRENT

SERVICES

ALPHA/BETA COUNT SHEET

Sa Num	Aliq.	Ppt. Wt.	Date	Time	Counts	Count time	Bkgd.	Bkgd. Time	Set	Initials
RDAC 8204	0.1070	0	2/22/06	0825		50 MIN			10A	CS
RDAC 8205	0.1010								10B	
RDAC 8206	0.1082								10C	
RDAC 8207	0.1019								10D	

Client: STLDate: 2/22/06Analyst: TDAComments: TH 234 06B 100 #6050Requested Count Time: 50 MIN

2/22/06

FORM NO.: RC-097, 8/00, REV 1

THORIUM

CONTINUING CALIBRATION

Quality Assurance Report. Generated 26-MAY-2006 11:33:49.08

QA Filename : \$DISK1:[ALP171.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.295885 Std Deviation : 0.044263

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2954	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.195036 Std Deviation : 0.540977

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		9.0000	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 345.875275 Std Deviation : 10.156054

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		342.6818	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.299046 Std Deviation : 0.022112

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.3018	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 5.740020 Std Deviation : 0.269663

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		5.8017	

Quality Assurance Report. Generated 26-MAY-2006 11:33:49.77

QA Filename : \$DISK1:[ALP171.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000504 Std Deviation : 0.000682

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000484 Std Deviation : 0.000750

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	In

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000387 Std Deviation : 0.000593

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
Mean : 0.000580 Std Deviation : 0.000844

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
Mean : 0.000565 Std Deviation : 0.000821

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000542 Std Deviation : 0.000780

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000603 Std Deviation : 0.000970

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0030	[In]

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000783 Std Deviation : 0.001038

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg	0.0030	In	
-----------------------	--------	----	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000918 Std Deviation : 0.001150

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg	0.0040	In	
-----------------------	--------	----	--

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001170 Std Deviation : 0.001334

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg	0.0020			
-----------------------	--------	--	--	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000857 Std Deviation : 0.000966

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001024 Std Deviation : 0.001082

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued) Page : 4					

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000936 Std Deviation : 0.001064

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001476 Std Deviation : 0.001552

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002162 Std Deviation : 0.002229

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002155 Std Deviation : 0.002230

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg 0.0030 | | |

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.008312 Std Deviation : 0.016955

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg			0.0030	
-----------------------	--	--	--------	--

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.006456 Std Deviation : 0.014719

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg			0.0070	
-----------------------	--	--	--------	--

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001523 Std Deviation : 0.002698

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	

Quality Assurance Report. Generated 26-MAY-2006 11:33:52.45

QA Filename : \$DISK1:[ALP171.QA]GROUP_2_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.296898 Std Deviation : 0.024734

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.3090	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 9.195036 Std Deviation : 0.590095

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		10.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 348.322205 Std Deviation : 6.338201

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		346.6237	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.296160 Std Deviation : 0.028161

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.3095	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.618928 Std Deviation : 0.120659

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 5.6481 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:33:53.15

QA Filename : \$DISK1:[ALP171.QA]GROUP_2_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001773 Std Deviation : 0.012240

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.082136 Std Deviation : 0.741066

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.003601 Std Deviation : 0.029706

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.012327 Std Deviation : 0.104605

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.080632 Std Deviation : 0.723888

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.079504 Std Deviation : 0.714054

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.051116 Std Deviation : 0.457260

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.005647 Std Deviation : 0.044590

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.002378 Std Deviation : 0.014760

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.083496 Std Deviation : 0.744496

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.004341 Std Deviation : 0.031422

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002610 Std Deviation : 0.014632

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 4				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002793 Std Deviation : 0.015730

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.013641 Std Deviation : 0.110616

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.072768 Std Deviation : 0.642738

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.080268 Std Deviation : 0.711060

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
Mean : 0.071181 Std Deviation : 0.603462

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
Mean : 0.128425 Std Deviation : 1.131168

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.082925 Std Deviation : 0.739079

Measurcment Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

Quality Assurance Report. Generated 26-MAY-2006 11:33:55.63

QA Filename : \$DISK1:[ALP171.QA]GROUP_3_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.258018 Std Deviation : 0.004585

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2552	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.177536 Std Deviation : 0.494915

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		9.0000	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 335.632294 Std Deviation : 3.454323

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		334.5636	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.256734 Std Deviation : 0.017491

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2560	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.930007 Std Deviation : 0.165146

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 5.9762 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:33:56.30

QA Filename : \$DISK1:[ALP171.QA]GROUP_3_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000167 Std Deviation : 0.000376

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000150 Std Deviation : 0.000360

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000167 Std Deviation : 0.000376

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000384 Std Deviation : 0.000585

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)			Page : 2	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000334 Std Deviation : 0.000510

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000250 Std Deviation : 0.000474

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000350 Std Deviation : 0.000634

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000417 Std Deviation : 0.000788

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000400 Std Deviation : 0.000764

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000551 Std Deviation : 0.000791

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000517 Std Deviation : 0.000725

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000517 Std Deviation : 0.000793

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued) Page : 4					

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000551 Std Deviation : 0.000853

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001051 Std Deviation : 0.001172

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001118 Std Deviation : 0.001291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001034 Std Deviation : 0.001208

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.002319 Std Deviation : 0.003284

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001919 Std Deviation : 0.003556

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0040	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000984 Std Deviation : 0.001569

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

Quality Assurance Report. Generated 26-MAY-2006 11:33:58.95

QA Filename : \$DISK1:[ALP171.QA]GROUP_4_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.250090 Std Deviation : 0.041614

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2647	

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 9.187500 Std Deviation : 0.826300

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		10.5000	

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 336.650543 Std Deviation : 6.541206

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		334.0021	

-- Multi-Test Full Report --

Description : Average Efficiency
 Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.252800 Std Deviation : 0.025977

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2585	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 5.511713 Std Deviation : 0.159703

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 5.4870 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:33:59.90

QA Filename : \$DISK1:[ALP171.QA]GROUP_4_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000200 Std Deviation : 0.000448

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000146 Std Deviation : 0.000405

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000164 Std Deviation : 0.000420

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020 Ac	

← Uranium

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000382 Std Deviation : 0.000561

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000328 Std Deviation : 0.000611

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000273 Std Deviation : 0.000526

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000309 Std Deviation : 0.000574

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0010	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000237 Std Deviation : 0.000470

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000200 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000400 Std Deviation : 0.000656

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000218 Std Deviation : 0.000417

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000291 Std Deviation : 0.000498

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				
				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000346 Std Deviation : 0.000480

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000564 Std Deviation : 0.000789

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000692 Std Deviation : 0.001035

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0020		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000655 Std Deviation : 0.001005

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued)

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002039 Std Deviation : 0.003473

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0090	In

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002020 Std Deviation : 0.004020

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0090	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-FEB-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000564 Std Deviation : 0.000959

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-MAR-2006 06:43	bkg		0.0020	

Quality Assurance Report. Generated 26-MAY-2006 11:34:05.31

QA Filename : \$DISK1:[ALP171.QA]GROUP__6_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.295844 Std Deviation : 0.018810

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.3003	

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.032680 Std Deviation : 0.448478

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		7.8333	

-- Multi-Test Full Report --

Description : Centroid, Am-241
 Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 348.843414 Std Deviation : 3.293956

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		347.6739	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000
Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.298396 Std Deviation : 0.018839

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2992	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.041460 Std Deviation : 0.024370

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 6.0180 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:34:06.02

QA Filename : \$DISK1:[ALP171.QA]GROUP_6_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000484 Std Deviation : 0.000718

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0000		
-------------------	-----	--	--------	--	--

20-MAR-2006 06:25	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000316 Std Deviation : 0.000510

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0000		
-------------------	-----	--	--------	--	--

20-MAR-2006 06:25	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000462 Std Deviation : 0.000798

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0000	
20-MAR-2006 06:25	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000557 Std Deviation : 0.000738

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0030	Ac
14-MAR-2006 05:18	bkg		0.0010	
20-MAR-2006 06:25	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000332 Std Deviation : 0.000490

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0010		
14-MAR-2006 05:18	bkg		0.0000		
20-MAR-2006 06:25	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000366 Std Deviation : 0.000530

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0020	Ac	
14-MAR-2006 05:18	bkg		0.0000		
20-MAR-2006 06:25	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000421 Std Deviation : 0.000669

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0020	In	
14-MAR-2006 05:18	bkg		0.0000		
20-MAR-2006 06:25	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000448 Std Deviation : 0.000756

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0020	In	
-------------------	-----	--	--------	----	--

14-MAR-2006 05:18	bkg		0.0000		
-------------------	-----	--	--------	--	--

20-MAR-2006 06:25	bkg		0.0000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000437 Std Deviation : 0.000708

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0010		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0000		
-------------------	-----	--	--------	--	--

20-MAR-2006 06:25	bkg		0.0000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000669 Std Deviation : 0.000794

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0010	
20-MAR-2006 06:25	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000703 Std Deviation : 0.000782

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0010	
20-MAR-2006 06:25	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000789 Std Deviation : 0.000771

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0010	
20-MAR-2006 06:25	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000823 Std Deviation : 0.000843

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0010	
20-MAR-2006 06:25	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001263 Std Deviation : 0.001378

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0070	Ac
20-MAR-2006 06:25	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001593 Std Deviation : 0.001754

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0070	Ac
20-MAR-2006 06:25	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001597 Std Deviation : 0.001848

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-MAR-2006 06:43	bkg		0.0020	
14-MAR-2006 05:18	bkg		0.0080	Ac
20-MAR-2006 06:25	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.005319 Std Deviation : 0.012911

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0090	
14-MAR-2006 05:18	bkg		0.0090	
20-MAR-2006 06:25	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.005130 Std Deviation : 0.013551

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0100	
14-MAR-2006 05:18	bkg		0.0090	
20-MAR-2006 06:25	bkg		0.0060	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000883 Std Deviation : 0.001565

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0020	

20-MAR-2006 06:25 bkg

0.0000 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:34:08.78

QA Filename : \$DISK1:[ALP171.QA]GROUP_7_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.267912 Std Deviation : 0.004245

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09	chk		0.2736	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.802722 Std Deviation : 0.339651

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09	chk		6.1667	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 337.800171 Std Deviation : 3.363381

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		337.3970	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.267798 Std Deviation : 0.003291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.2701	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.651971 Std Deviation : 0.026119

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 5.6439 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:34:09.50

QA Filename : \$DISK1:[ALP171.QA]GROUP_7_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000255 Std Deviation : 0.000518

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000218 Std Deviation : 0.000534

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000218 Std Deviation : 0.000417

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000291 Std Deviation : 0.000567

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000255 Std Deviation : 0.000585

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000200 Std Deviation : 0.000487

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000182 Std Deviation : 0.000390

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000237 Std Deviation : 0.000470

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000309 Std Deviation : 0.000541

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000510 Std Deviation : 0.000999

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000237 Std Deviation : 0.000577

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000291 Std Deviation : 0.000658

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					
					Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000328 Std Deviation : 0.000772

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000218 Std Deviation : 0.000534

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000673 Std Deviation : 0.000945

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000692 Std Deviation : 0.000961

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001856 Std Deviation : 0.002409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001547 Std Deviation : 0.002716

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000528 Std Deviation : 0.000901

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

Quality Assurance Report. Generated 26-MAY-2006 11:34:11.97

QA Filename : \$DISK1:[ALP171.QA]GROUP_8_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.308462 Std Deviation : 0.004280

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09	chk		0.3080	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.141844 Std Deviation : 0.340465

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09	chk		7.5000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 336.068970 Std Deviation : 8.085652

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		332.5354	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.307906 Std Deviation : 0.017497

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAR-2006 10:09	chk		0.3127	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.830454 Std Deviation : 0.237792

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

12-MAR-2006 10:09 chk 5.8738 | | |

Quality Assurance Report. Generated 26-MAY-2006 11:34:12.70

QA Filename : \$DISK1:[ALP171.QA]GROUP_8_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000393 Std Deviation : 0.000630

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0010		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000572 Std Deviation : 0.000635

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000536 Std Deviation : 0.000882

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000429 Std Deviation : 0.000743

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000322 Std Deviation : 0.000549

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0030	Ac	
14-MAR-2006 05:18	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000250 Std Deviation : 0.000519

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
13-MAR-2006 06:43	bkg		0.0020	Ac	
14-MAR-2006 05:18	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000250 Std Deviation : 0.000519

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	Ac
14-MAR-2006 05:18	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000286 Std Deviation : 0.000535

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	Ac
14-MAR-2006 05:18	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000679 Std Deviation : 0.000864

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000572 Std Deviation : 0.000921

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000751 Std Deviation : 0.001077

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

13-MAR-2006 06:43	bkg		0.0000		
-------------------	-----	--	--------	--	--

14-MAR-2006 05:18	bkg		0.0010		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00

Mean : 0.000858 Std Deviation : 0.001240

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0000	
14-MAR-2006 05:18	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000786 Std Deviation : 0.001032

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0020	
14-MAR-2006 05:18	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000894 Std Deviation : 0.001450

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000822 Std Deviation : 0.001443

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0010	
14-MAR-2006 05:18	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.007186 Std Deviation : 0.020985

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43	bkg		0.0030	
14-MAR-2006 05:18	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.006256 Std Deviation : 0.020016

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

13-MAR-2006 06:43 bkg	0.0030			
14-MAR-2006 05:18 bkg	0.0030			

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2002 00:00 End Date : 1-JUL-2003 00:00
 Mean : 0.000822 Std Deviation : 0.001417

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2006 06:43 bkg			0.0000	
14-MAR-2006 05:18 bkg			0.0010	

Quality Assurance Report. Generated 26-MAY-2006 11:44:55.80

QA Filename : RDND06::RDND06\$DKA100:[ALP113.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3340	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		5.8333	

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		312.5263	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3432	

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.6169	

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3340	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		356.5670	

Quality Assurance Report. Generated 26-MAY-2006 11:44:56.92

QA Filename : RDND06::RDND06\$DKA100:[ALP113.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0010	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0040	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

Quality Assurance Report. Generated 26-MAY-2006 11:45:05.25

QA Filename : RDND06::RDND06\$DKA100:[ALP114.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		0.4107		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		7.3333		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		301.0902		
-------------------	-----	--	----------	--	--

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		0.3319		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.4107	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		346.4391	

Quality Assurance Report. Generated 26-MAY-2006 11:45:06.23

QA Filename : RDND06::RDND06\$DKA100:[ALP114.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0010	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0010	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0010	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)			Page : 2	
--	--	--	----------	--

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0030			
-------------------	-----	--------	--	--	--

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0000			
-------------------	-----	--------	--	--	--

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0010			
-------------------	-----	--------	--	--	--

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0030			
-------------------	-----	--------	--	--	--

Quality Assurance Report. Generated 26-MAY-2006 11:45:19.26

QA Filename : RDND06::RDND06\$DKA100:[ALP116.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : U-238 Centroid

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		179.6069	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		9.0000	

-- Multi-Test Full Report --

Description : Cf-252 Centroid

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		435.0617	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : counts/decay Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.1746	

-- Multi-Test Full Report --

Description : Am-241 Efficiency
 Parameter Units : counts/decay Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.1759	

Quality Assurance Report. Generated 26-MAY-2006 11:45:20.17

QA Filename : RDND06::RDND06\$DKA100:[ALP116.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0010	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0020	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0020	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0020	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0010	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg 0.0040 | | |

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg			0.0040	
-----------------------	--	--	--------	--

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg			0.0010	
-----------------------	--	--	--------	--

Quality Assurance Report. Generated 26-MAY-2006 11:45:27.19

QA Filename : RDND06::RDND06\$DKA100:[ALP117.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		0.3411		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		6.5000		
-------------------	-----	--	--------	--	--

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

19-MAR-2006 10:06	chk		361.5403		
-------------------	-----	--	----------	--	--

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 28-SEP-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.340942 Std Deviation : 0.002303

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3441	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.4599	

Quality Assurance Report. Generated 26-MAY-2006 11:45:28.09

QA Filename : RDND06::RDND06\$DKA100:[ALP117.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0016	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

Quality Assurance Report. Generated 26-MAY-2006 11:45:40.43

QA Filename : RDND06::RDND06\$DKA100:[ALP118.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3479	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.0000	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		345.5653	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-DEC-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.333433 Std Deviation : 0.091930

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.3507	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.6375	

Quality Assurance Report. Generated 26-MAY-2006 11:45:41.65

QA Filename : RDND06::RDND06\$DKA100:[ALP118.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0016	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0016	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0012	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

20-MAR-2006 07:19	bkg	0.0000	
-------------------	-----	--------	--

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0008	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0012	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg 0.0004 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0004	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 3				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0024	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0032	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0032	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0024	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0024	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

Quality Assurance Report. Generated 26-MAY-2006 11:45:48.69

QA Filename : RDND06::RDND06\$DKA100:[ALP119.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.2522	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		9.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		354.0634	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-DEC-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.260673 Std Deviation : 0.004703

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.2559	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.4469	

Quality Assurance Report. Generated 26-MAY-2006 11:45:50.23

QA Filename : RDND06::RDND06\$DKA100:[ALP119.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0000	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

Quality Assurance Multi-Test Full Report (continued)			Page : 3	
--	--	--	----------	--

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0010	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0020	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19	bkg		0.0020	
-------------------	-----	--	--------	--

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0030		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0010		

Quality Assurance Report. Generated 26-MAY-2006 11:46:03.45

QA Filename : RDND06::RDND06\$DKA100:[ALP120.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.2446	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		9.5000	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		357.1586	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-DEC-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.245043 Std Deviation : 0.003514

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		0.2444	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2006 10:06	chk		7.3827	

Quality Assurance Report. Generated 26-MAY-2006 11:46:04.73

QA Filename : RDND06::RDND06\$DKA100:[ALP120.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

Quality Assurance Multi-Test Full Report (continued) Page : 2					

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
20-MAR-2006 07:19	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

20-MAR-2006 07:19 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued) Page : 3				

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2006 07:19	bkg		0.0020	